Soap

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"Things that LAST"

THE inspired genius of the ancient Greek sculptors has carved its eternal record in the memory of man.

This same faculty for doing the right thing at the right time characterizes Ungerer's operations today.

Quality raw materials for soap perfuming, expert laboratory assistance and the accumulated experience of three generations—that's Ungerer & Co.

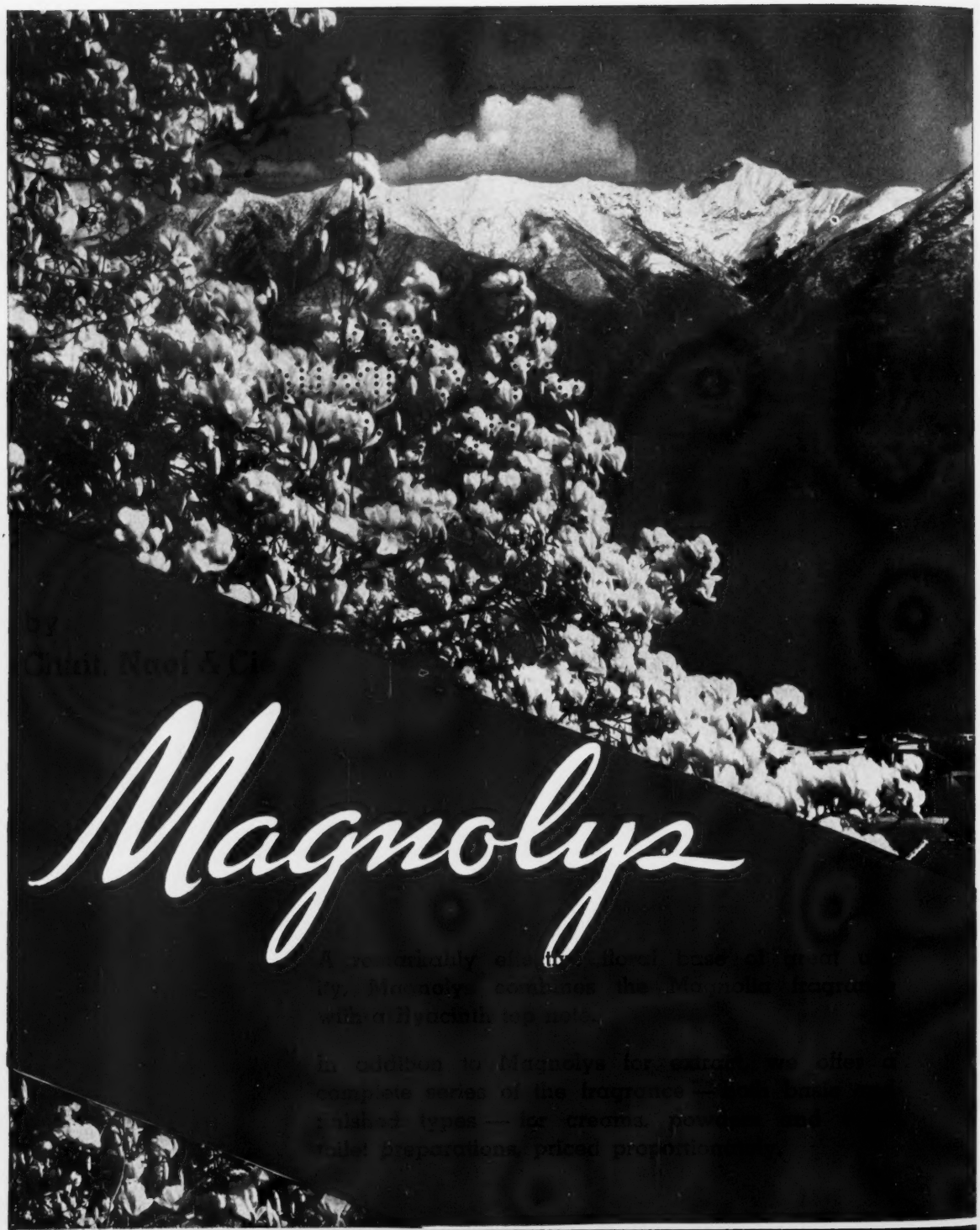
Our customers tell us that in this changing world they depend upon this Ungerer policy as a

"Thing that Lasts"

UNGERER & CO.

1-15 West 20th Street NEW YORK

and Sanitary Chemicals



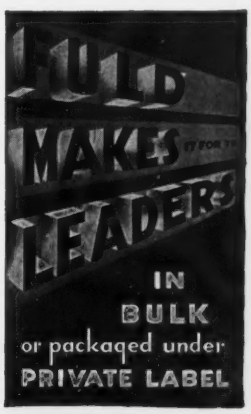
Firmenich & Co., Inc.
135 FIFTH AVE., NEW YORK
CHICAGO OFFICE: 844 NORTH RUSH STREET

Where Wax Salesmen get their heads together you hear about—

FULD'S WAXES

Salesmen wax *enthusiastic* about Fuld-made Waxes —because they know that penny for penny, Fuld quality is superior to any. They know that Fuld's Liquid Waxes have a way of permanently healing sorely-heeled floors. And *you* know that when *your salesmen* are sold on a product like that, they're going to pass the selling on to their customers!

Famous self-luster, water resistance, slip resistance, instant drying—of these and many similar features are Fuld's record wax sales made.



Selling.. Jobbers ONLY!

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LIQUID DEODORANTS
LIQUID CLEANERS
LIQUID SOAPS
OIL SOAPS
INSECTICIDES
DISINFECTANTS
SELF POLISHING WAXES
PASTE WAXES
POWDERED WAXES
FLOOR SEALS
FLOOR TREATMENTS
METAL POLISHES
FURNITURE POLISHES
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SPECIAL CLEANERS
SOAP DISPENSERS
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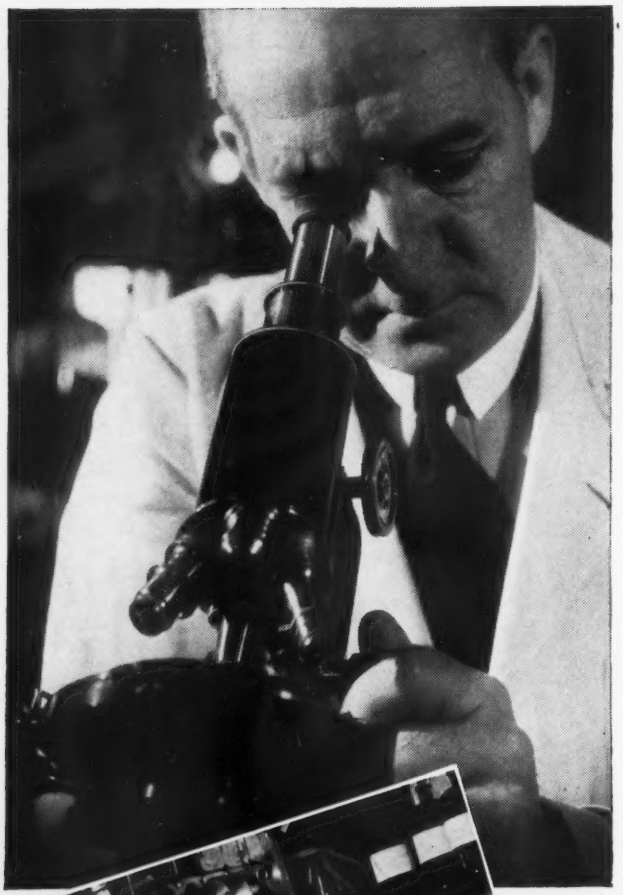

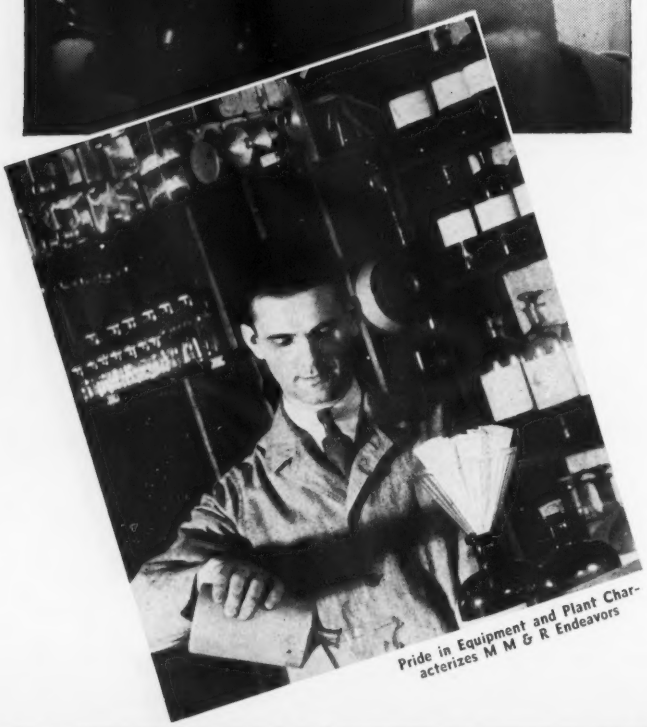

Pride in Equipment and Plant Characterizes M M & R Endeavors

PROGRESSIVE TESTING

and what it means to users of

M M & R PERFUME OILS

Working on the theory that *there's no product so perfect that it cannot be improved,* the M M & R corps of laboratory technicians is constantly engaged in testing, improving and adding new perfume oils to the M M & R line. What's progress for us, here at the M M & R Laboratory, is also progress for you, the manufacturer, for this constant vigil over our quality standards helps your product to gain greater consumer acceptance.

Cost, too, is a problem that our progressive testing methods are succeeding in solving every day. A great portion of the savings made possible by our daily progress in lowering perfume oil costs is *passed on to you.* This allows lowering of your own production expenses with the consequent increase in your profits.

If you have any particular perfuming problems, we offer you the facilities of our expert staff in helping to solve them.

MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS AROMATIC CHEMICALS, ETC...SINCE 1895

16 DESBROSSES ST. NEW YORK, N. Y.

M M&R MAGNUS

Offices and Warehouses in Chicago at 180 N. WACKER DRIVE • In CANADA—RICHARDSON AGENCIES, Ltd., Toronto

Soap and Sanitary Chemicals

Volume XVI
Number 11

Reg. U. S. Pat. Office

NOVEMBER 1940

●

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254 WEST 31st STREET NEW YORK, N. Y.

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Step Up Your Liquid Soap Sales!

LIQUID SOAP ODORS
SERIES No. 65

LIQUID SOAP LEMON SERIES No. 65
" " LILAC " No. 65

1 lb. lots ..... $.65 lb.
5 lb. lots ..... .55 lb.
25 lb. lots ..... .50 lb.

USE: 1 ounce of perfume oil to 3 gallons of liquid soap. No expensive filtering or decanting of soap necessary.

SUPERFINE
LIQUID SOAP ODORS

SUPER LIQUID SOAP BOUQUET
" " " FOUGERE
" " " LAVENDER
" " " LEMON VERBENA
" " " LILAC
" " " ORANGE BLOSSOM
" " " ORIENTAL
" " " PINE
" " " ROSE
" " " TAR ODOR
" " " VIOLET
" " " WISTERIA

1 lb. lots ..... $3.00 lb.
5 lb. lots ..... 2.85 lb.
25 lb. lots ..... 2.75 lb.

USE: 1/8 to 1/4 ounce of perfume oil to the gallon of liquid soap depending upon the amount of odor you require in your product and your cost limitation to accomplish it.

LIQUID SOAP ODORS
SERIES No. 100

LIQUID SOAP BOUQUET SERIES No. 100
" " LAVENDER " No. 100
" " LEMON " No. 100
" " ROSE " No. 100

1 lb. lots ..... $1.00 lb.
5 lb. lots ..... .90 lb.
25 lb. lots ..... .85 lb.

USE: 1 ounce of perfume oil to 4 gallons of liquid soap. In answer to the increasing demand for inexpensive liquid soap odors, our laboratories developed the above perfumes which will remain clear, making expensive filtering or decanting of the soap unnecessary.

IMPORTANT

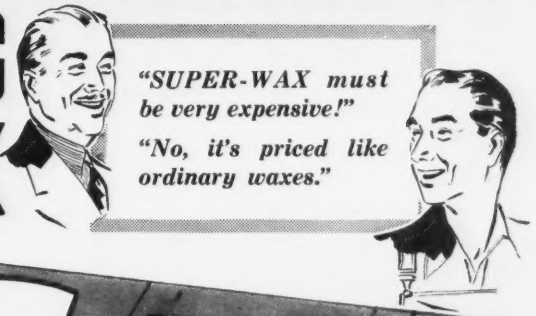
We have hundreds of different type odors for all kinds of soap preparations, such as Mechanic, Medicated, Naphtha, Powdered, Hard, Soft, Waterless and Toilet Soaps.

We suggest that you write us as to the type soap you want to perfume, also your cost limitation per 100 pounds of soap, and if possible some idea as to the type odor you prefer. We will do the rest.

AROMATIC PRODUCTS, INC.

15 E. 30th Street, New York FACTORY: Springdale, Conn.
ATLANTA — CHICAGO — PITTSBURGH — DALLAS — MEMPHIS

The First BIG WAX IMPROVEMENT SINCE THE INTRODUCTION OF SELF-POLISHING LIQUID WAX



HYSAN Presents
SUPER-WAX
A NEW DELUXE SUPER QUALITY FLOOR WAX . . . MADE BY HYSAN'S NEW QUICK CHILL PROCESS . . . WHICH COMBINES SUPREME LUSTRE, HIGHEST FOOT SAFETY, AND TOTAL FREEDOM FROM SMEAR—IN ONE AND THE SAME WAX . . . FOR THE FIRST TIME IN WAX HISTORY.
BRAZIL
MADE FROM #1 YELLOW
PRIME CARNAUBA WAX

SUPER-WAX is manufactured from the choicest ingredients known to present day research . . . by Hysan's revolutionary new QUICK CHILL process which disperses the wax into millions of microscopic facets that focus veritable sunbeams of gleaming lustre on every inch of floor surface. This "free" increase in lustre affords our chemists a reserve to build up traction and other vital factors formerly sacrificed to achieve supreme lustre.

We substantially reduced the slip factor, yet cancelled out smear and stickiness. We made SUPER-WAX *really* proof against milking under heavy weather traffic. We sensationally multiplied its ability to hold peak lustre after dozens of scrubbings. We achieved vastly smoother spread and leveling qualities.

Never before have all these factors been completely balanced in one and the same wax. By pricing SUPER-WAX at the level of ordinary self-polishing waxes, we are affording the trade the greatest quality buy in the floor maintenance field. Write for free sample and further information.

CLEANERS • DISINFECTANTS • SOAPS • DEODORANTS • DEODORANT BLOCKS • INSECTICIDES • POLISHES • WAXES

HYSAN — SHIPS IT FASTER

HYSAN

MANUFACTURING CHEMISTS

PROTECT YOUR LABEL WITH HYSAN QUALITY

Hysan Products Company
2560 Armitage Ave., Chicago
Kindly send us sample of SUPER-WAX and more information.
Firm .....
Street .....
City ..... By .....
5-11-40

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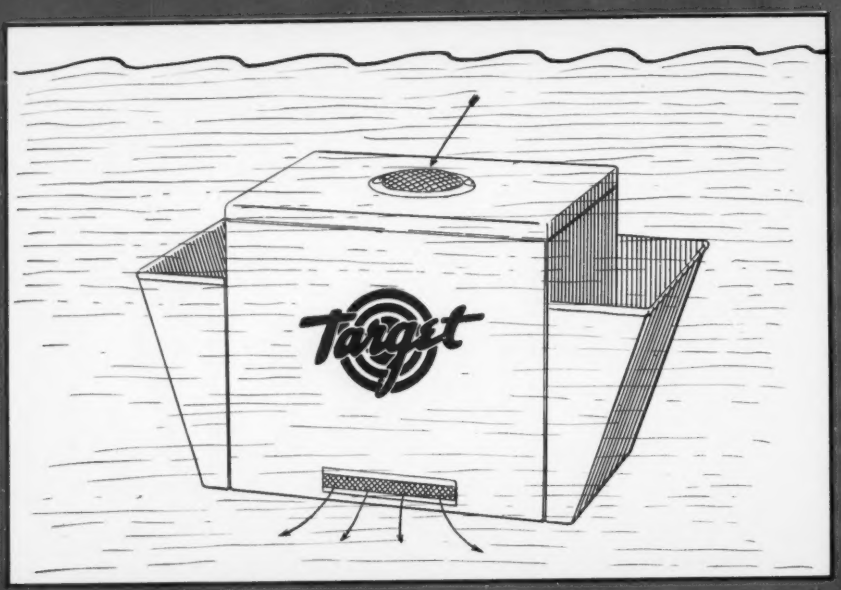
Introducing...

The new TARGET

submerged

DISHWASHING MACHINE REGULATOR



PAT. PENDING. SERIAL No. 346.925

(1) The only REGULATOR on the market that is completely submerged in water.

(2) Rests on the bottom of the wash tank.

(3) Fits all dishwashing machines.

(4) Simple and practical.

(5) This "fool proof" REGULATOR positively maintains uniform strength of solution at all times. It feeds the dishwashing compound automatically at an accurately predetermined rate.

(6) It takes all the guessing out of dishwashing, and uses considerably less compound.

(7) It will enable you to sell the larger accounts and make it possible for you to really get a sizable amount of additional profitable business.

Valuable franchise available to live wire distributors. Write for complete information.

CHEMICAL MANUFACTURING CO.
AND DISTRIBUTING

SIXTH and BUSHKILL DRIVE EASTON, PA.

ELIMINATE UNCERTAINTIES OF COST AND SUPPLY!

USE THESE FELTON PRODUCTS TO SOLVE YOUR ESSENTIAL OIL PROBLEMS!

Berganella
(Replaces Oil of Bergamot)

Sassafrin
(Replaces Sassafras artificial)

Lavenola
(Replaces Oil of Lavender)

Javonella
(Replaces Oil of Citronella)

PERFECT PERFUME MATERIALS FOR

★ ALL TYPES OF SOAPS
★ WASHING POWDERS
★ LIQUID CLEANSERS
★ POLISHES AND WAXES

FELTON Quality

FELTON CHEMICAL CO., INC.
603 Johnson Ave., Brooklyn, N. Y.
Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME OILS, ARTIFICIAL FLOWER AND FLAVOR OILS.
BRANCHES IN PRINCIPAL CITIES.

These four manufactured products possess important advantages over natural essential oils. Among them are dependable low price, uniform quality, ready availability, and a clean lasting fragrance that actually adds sales appeal to your products.

Write **NOW FOR SAMPLES AND QUOTATIONS!**

METHYL SALICYLATE MONSANTO

(METHYL SALICYLATE U. S. P.)

Methyl salicylate is used in candies, dentifrices, antiseptics and other products to impart either a wintergreen flavor or a wintergreen odor.

In Methyl Salicylate Monsanto will be found a uniform, high grade product capable of fulfilling strictest requirements. One of the reasons for this is the purity of the basic materials from which it is made. Here, Monsanto is in the unique position of being its own supplier, thus assuring a dependable source of high quality material at all times. Let us fill your next order.

MONSANTO CHEMICAL COMPANY, St. Louis, U.S.A.
District Offices: New York, Chicago, Boston, Detroit, Charlotte, Birmingham, Los Angeles, San Francisco, Montreal, London.

SPECIFICATIONS: METHYL SALICYLATE MONSANTO

Water-white liquid.
Odor: characteristic; pure, sweet.
Specific gravity at 25° C.: 1.180 - 1.185.
Solubility in alcohol: 1.7, complete.
Heavy metals: negative.

MONSANTO CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

Announcing

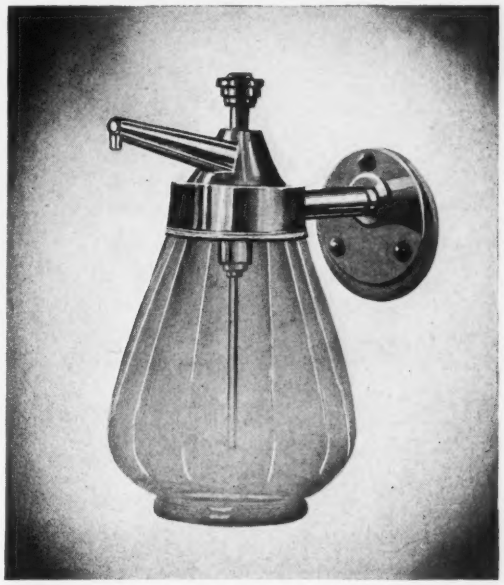
THE 1941 MODEL

POMPO

The Improved Pump Down

LIQUID SOAP

DISPENSER



- DISTINCTIVE SNUBBER ACTION
- NEW SLIP STREAM DESIGN
- STATIONARY SPOUT
- SIMPLIFIED MECHANISM
- BEAUTIFUL CHROMIUM FINISH
- ATTRACTIVELY PRICED

THE POMPO is one of many models in the PRECISION LINE.

Ask about our new plan to greatly increase your dispenser sales.

AMPION CORPORATION

4-88 FORTY SEVENTH AVE.
LONG ISLAND CITY, N. Y.

USERS of this fine motor oil now enjoy the sure protection and ready convenience of KORK-N-SEAL—the cap with the handy lever.

This famous closure is especially designed for top-notch sealing efficiency. No matter how difficult the assignment, it seals the product effectively, dependably.

And the little lever makes KORK-N-SEAL amazingly easy to remove . . . a convenient and really effective re-seal. Keeps out dust and dirt. No wonder so many manufacturers find it adds new sales appeal to their package. Complete information, prices and samples are yours for the asking. Just write **Williams Sealing Corporation, Decatur, Illinois,** *a division of Crown Cork and Seal Company.*

Immediately

AVAILABLE

AMERICAN manufactured Aromatic Chemicals . . . of exceptionally fine quality . . are available to fulfill your requirements.

Our domestic industry is equipped to take care of practically every perfume problem confronting the manufacturer of soap, perfume, or cosmetic.

In Aromatics Verona you will find a line of pure aromatic chemicals which is being steadily augmented and which will allow the American perfumer to produce for the American Public a line of interesting perfumes of infinite variety.

Among the leading items produced are:

ALPHA AMYL CINNAMIC ALDEHYDE
IONONE COMPLETE
PARA CRESOL ETHYL ETHER
PARA CRESOL METHYL ETHER
PHENYL ETHYL ALCOHOL

The following raw materials of Domestic Manufacture have proven themselves in the Soap and Perfume industry. The rapid rise in their sale indicates their value.

CYCLAMAL
FLORANOL
CITRONAL
ROSEFOLIA

100% Pure—Soap fast—Free from irritation. Will not discolor.

Requests for samples on your firm's letterhead will be promptly answered.

Aromatics Division
GENERAL DRUG COMPANY

170 VARICK ST., NEW YORK
TRANSPORTATION BLDG., LOS ANGELES, CAL.
9 S. CLINTON ST., CHICAGO
1019 ELLIOTT ST., W., WINDSOR, ONT.

X VOTE FOR BETTER SERVICE .... AND BETTER QUALITY

Scores of can buyers are turning to Crown for prompt, dependable service on metal containers.

These users find that not only does Crown offer excellent service but a particularly gratifying standard of quality as well. Sturdy construction, handsome lithography and expert assistance by can designers.

In short, your container requirements will be handled to your entire satisfaction at Crown. It will pay you to investigate.

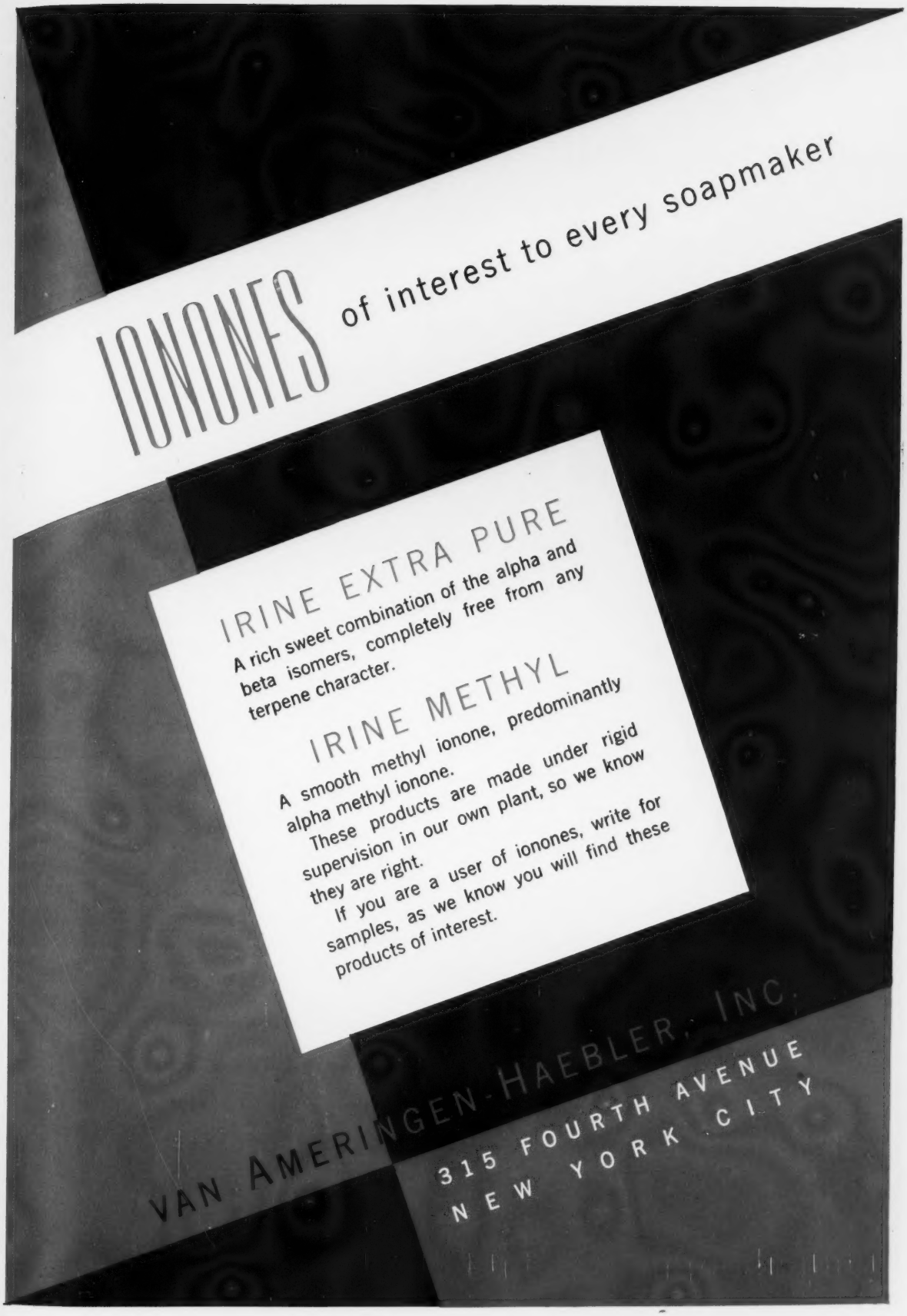
CROWN CAN COMPANY, PHILADELPHIA, PA.

Division of Crown Cork and Seal Company

BALTIMORE ST. LOUIS HOUSTON MADISON ORLANDO
FORT WAYNE NEBRASKA CITY

CROWN CAN

INDEPENDENT AND HELPFUL


IONONES of interest to every soapmaker
IRINE EXTRA PURE
A rich sweet combination of the alpha and beta isomers, completely free from any terpene character.
IRINE METHYL
A smooth methyl ionone, predominantly alpha methyl ionone.
These products are made under rigid supervision in our own plant, so we know they are right.
If you are a user of ionones, write for samples, as we know you will find these products of interest.
VAN AMERINGEN-HAEBLER, INC.
315 FOURTH AVENUE
NEW YORK CITY

"We have often had headaches and troubles with new products, but this time we called in American Can from the start. Problems like this are old stuff to them and the kind of service they give sure takes a load off our shoulders. As a matter of fact, we had four* of their departments working on this job. From now on, I'm for calling them in whenever we start discussing a new package."

**Research, Engineering, Marketing, and Design*

Can we help you with a packaging problem?

CANCO

AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.
104 SO. MICHIGAN AVE., CHICAGO • 111 SUTTER ST., SAN FRANCISCO

STILL SPARKLING CLEAR AT 4° BELOW ZERO C.!

TRY this test on the liquid soap you are now buying -- particularly the concentrated (40%) which you are using as a base to produce liquids of lower soap content.

"BUCKEYE" and "GEM" concentrate liquid soaps remain absolutely clear at temperatures below zero C., lending themselves perfectly for use at all temperatures as a base in producing liquids of lower soap content.

Just dilute them with distilled water --- no need whatever for any filtering.

Send for samples and prices. No obligation.

THE DAVIES-YOUNG SOAP CO.
Dayton, Ohio

"BUCKEYE" CONCENTRATE
and
"GEM" CONCENTRATE
Liquid Soaps

IT'S REGULAR SAVING THAT COUNTS!

You may make a one-time saving on a special purchase of materials, but it is the day in and day out, week in and week out savings on efficient service from a reliable source of supply that is the backbone of economical purchasing. Cyanamid gives you such service in a wide variety of chemicals. Let Cyanamid help you make everyday savings with prompt service and efficient technical cooperation on—

AEROSOL* WETTING AGENTS...ALUMINUM SULPHATE...CAUSTIC SODA...MURIATIC ACID ...ZINC STEARATE...SULPHURIC ACID... K&M MAGNESIUM OXIDE...TETRA SODIUM PYROPHOSPHATE...TRI SODIUM PHOSPHATE... SODA ASH...WAXES

*Trade-mark of American Cyanamid & Chemical Corporation applied to wetting agents of its own manufacture.

From a large collection of old-fashioned mechanical banks comes this amusing contraption for saving money.

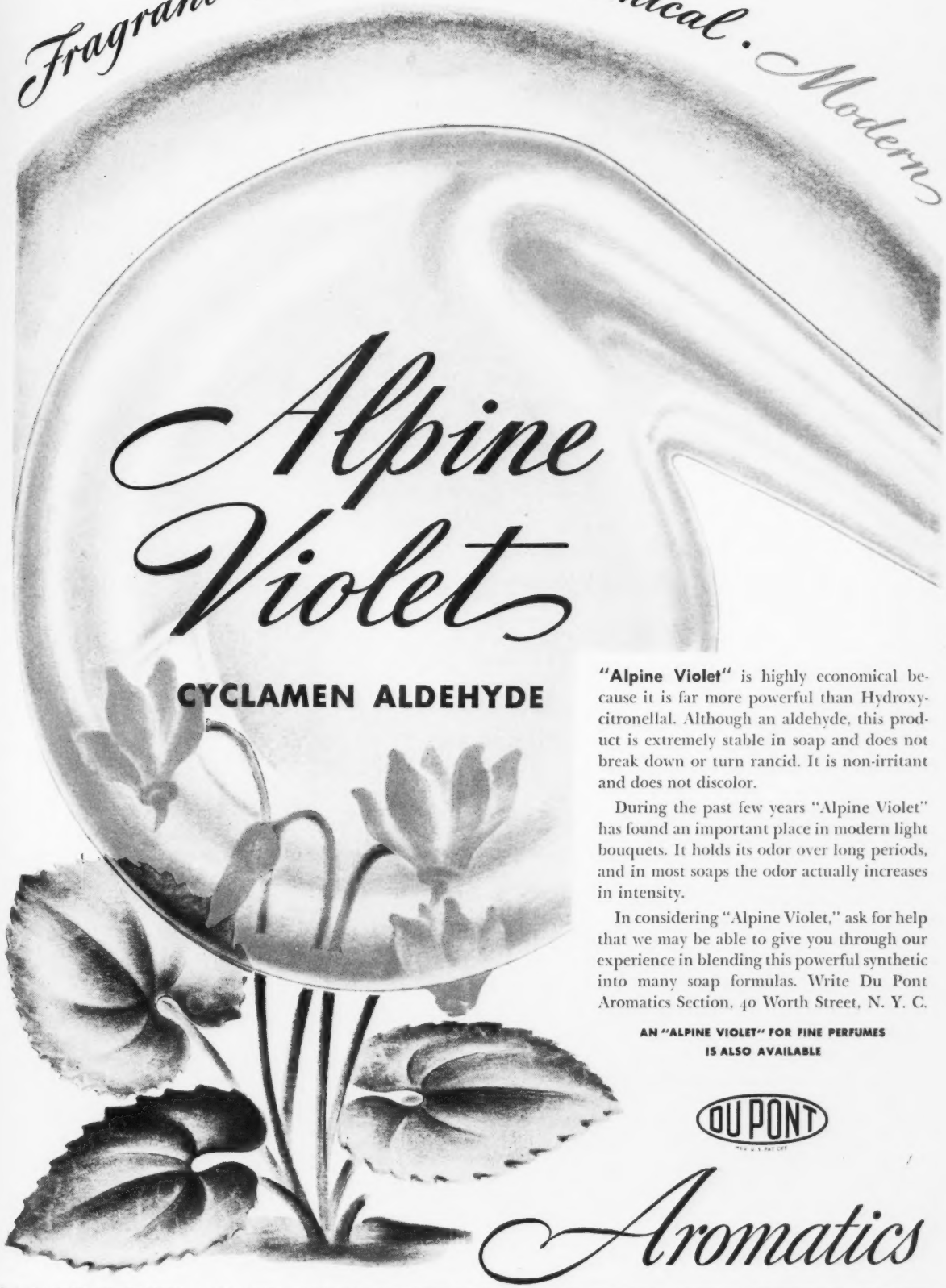
AMERICAN CYANAMID & CHEMICAL CORPORATION

30 ROCKEFELLER PLAZA · NEW YORK, N. Y.

A Unit of American Cyanamid Company

DISTRICT OFFICES: 89 Broad St., Boston, Mass.; 600 S. Delaware Ave., Philadelphia, Pa.; Russell & Bayard Sts., Baltimore, Md.; 822 W. Morehead Street, Charlotte, N. C.; 860 Leader Building, Cleveland, Ohio; 20 N. Wacker Drive, Chicago, Ill.; 2006 Race Street, Kalamazoo, Mich.; Azusa, Calif.

Fragrant · Lasting · Economical · Modern



Alpine Violet

CYCLAMEN ALDEHYDE

"Alpine Violet" is highly economical because it is far more powerful than Hydroxycitronellal. Although an aldehyde, this product is extremely stable in soap and does not break down or turn rancid. It is non-irritant and does not discolor.

During the past few years "Alpine Violet" has found an important place in modern light bouquets. It holds its odor over long periods, and in most soaps the odor actually increases in intensity.

In considering "Alpine Violet," ask for help that we may be able to give you through our experience in blending this powerful synthetic into many soap formulas. Write Du Pont Aromatics Section, 40 Worth Street, N. Y. C.

AN "ALPINE VIOLET" FOR FINE PERFUMES IS ALSO AVAILABLE

DU PONT

Aromatics

E. I. DU PONT DE NEMOURS & CO. (INC.), ORGANIC CHEMICALS DEPARTMENT, FINE CHEMICALS DIVISION, WILMINGTON, DELAWARE

THE SOUND OF HAMMERS THROUGHOUT THE LAND

is shaping your plans for 1941

Inescapably, your plans for next year must be tuned to the swelling prelude of men with hammers—as new factories, hangars, barracks and a thousand other symbols of the nation's efforts take form from coast-to-coast. Columbia is keeping pace with these activities through constant improvement of all our products—and the most rigid check on our production. We can offer substantial help to you right now in arranging for your requirements of Caustic Soda, Soda Ash, Liquid Chlorine, Sodium Bicarbonate and related products.

Together with unquestioned high quality, Columbia offers substantially large production capacity. But both these important assets can serve you best through advance planning. We suggest you call in a Columbia representative *now*—to discuss your needs for '41—to outline the many helpful services of our Technical staff—and explain our policy of making certain that a Columbia contract means you'll get it—and get the best.

COLUMBIA

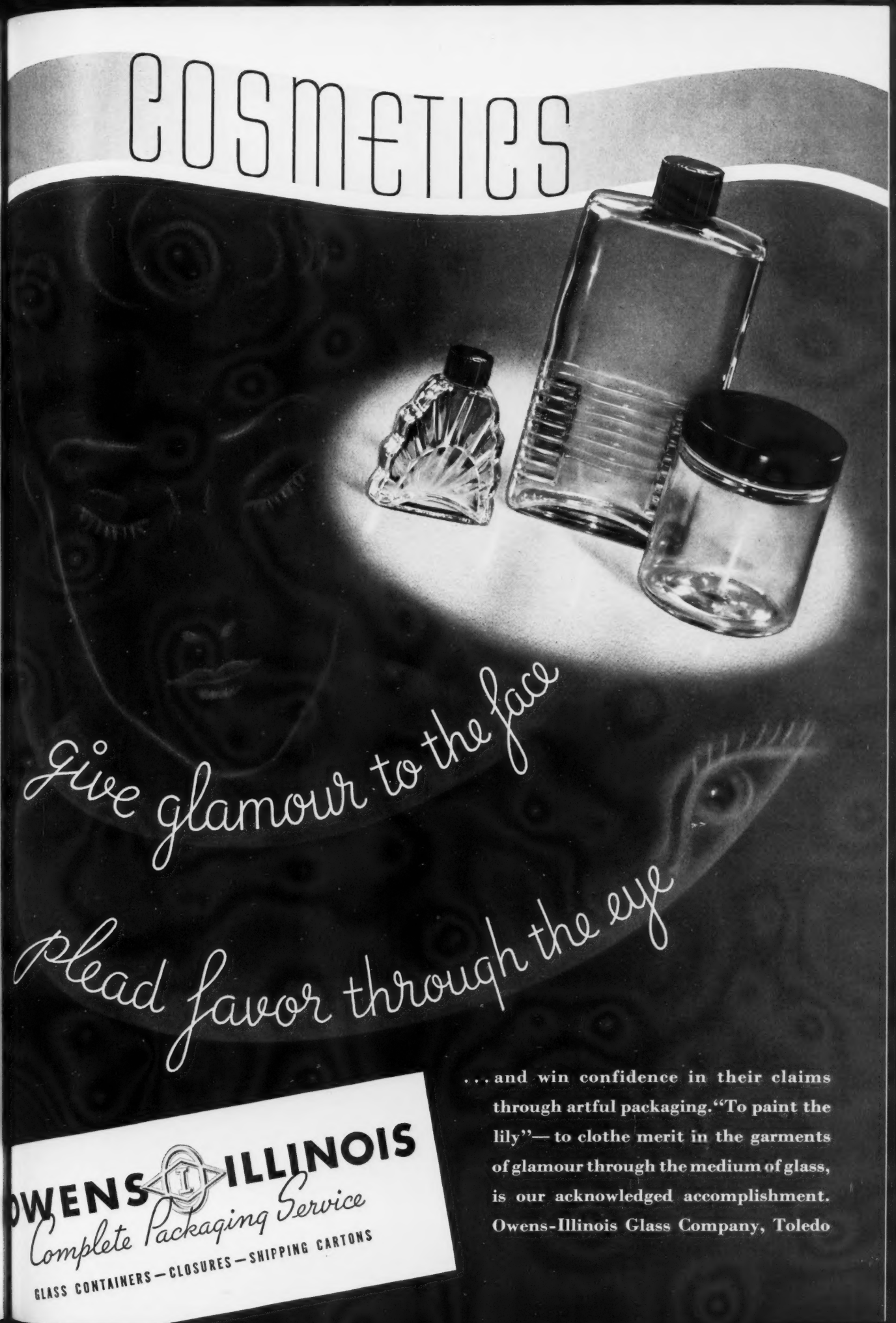
THE COLUMBIA ALKALI CORPORATION

CAUSTIC SODA • SODA ASH • SODIUM BICARBONATE
LIQUID CHLORINE • MODIFIED SODAS • CALCIUM CHLORIDE

THE COLUMBIA ALKALI CORPORATION

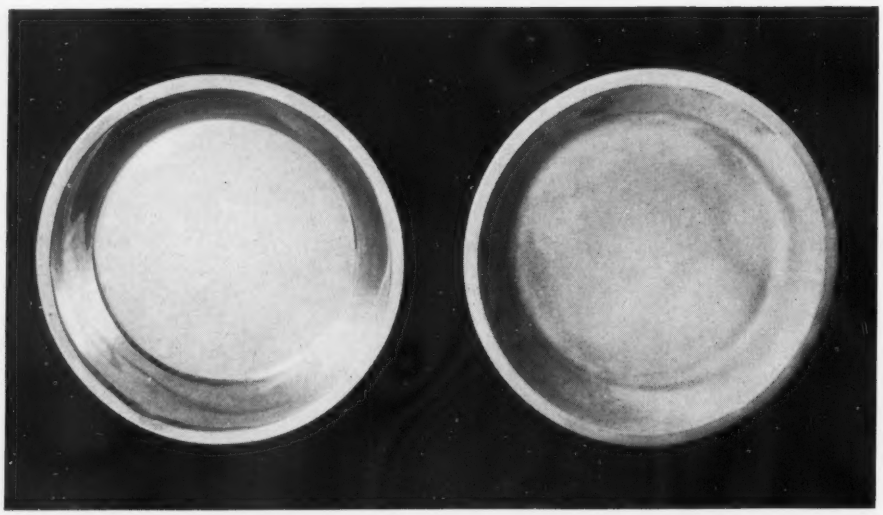
Executive Sales Offices: 30 ROCKEFELLER PLAZA, NEW YORK, N. Y. • ***Plant:*** BARBERTON, OHIO

CHICAGO • BOSTON • ST. LOUIS • PITTSBURGH • CINCINNATI • CLEVELAND • MINNEAPOLIS • PHILADELPHIA


COSMETICS
Give glamour to the face
plead favor through the eye
OWENS ILLINOIS
Complete Packaging Service
GLASS CONTAINERS — CLOSURES — SHIPPING CARTONS
. . . and win confidence in their claims through artful packaging. "To paint the lily" — to clothe merit in the garments of glamour through the medium of glass, is our acknowledged accomplishment. Owens-Illinois Glass Company, Toledo

Du Pont Tetra Sodium Pyrophosphate

RETARDS ALKALINE CORROSION OF ALUMINUM



These two aluminum pans were washed for five hours at 180° F. in baths containing 0.4 oz./gal. of detergent compositions. In one bath, 40% by weight of the strong alkali of the ordinary cleaner had been replaced by tetra sodium pyrophosphate. The pan on the left, washed in the solution containing tetra sodium pyrophosphate, remained bright and shiny. The other pan was badly corroded and discolored by the too harsh alkaline cleaner. The beneficial effect of the mildly alkaline tetra sodium pyrophosphate in cleaners used on aluminum objects is clearly indicated by the photographs.

Mild alkalinity is a necessary feature of solutions used in cleaning objects made from metals such as aluminum or tin. If the alkalinity of the cleaner is too great, serious corrosion and discoloration of the metal will result.

Because of its moderate alkalinity, Du Pont T.S.P.P. may be used to replace part of the stronger alkalies in a cleaner to produce a safer, less corrosive detergent. Du Pont T.S.P.P., moreover, exhibits a much greater dispersing action than do the stronger alkalies. For this reason, partial replacement of stronger alkalies by this unusual chemical will impart a greater detergent action to the cleaning solution. Use Du Pont Tetra Sodium Pyrophosphate for better soaps and cleaning compounds.

Listen to "Cavalcade of America" every Wednesday evening
7:30 to 8:00 P.M., E.S.T., over a Nation-wide N.B.C. Network

DU PONT

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
GRASSELLI CHEMICALS DEPARTMENT
WILMINGTON, DELAWARE

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Represented in Canada by CANADIAN INDUSTRIES, LTD., General Chemicals Division, Montreal and Toronto

SKY-HIGH CHRISTMAS SALES WITH

SNOWFLAKE

AS YOUR BATH CRYSTAL BASE ★ ★ ★ ★

As the perfect bath crystal base for Christmas packaging, Snowflake Crystals **OFFER YOU ALL THESE UNUSUAL FEATURES—FOUND ONLY IN SNOWFLAKE CRYSTALS.**

1. Beautiful and delicate crystalline appearance.
2. Mildness—non-irritating to the skin.
3. Detergent properties—a definite aid to soap.
4. Snowflake Crystals *soften* the water—they are the perfect bath crystal base!
5. Ready solubility—they dissolve almost instantly.
6. Snowflake Crystals readily absorb dyes.
7. An excellent vehicle for delicate perfuming.
8. Free flowing, which makes Snowflake ideal for packaging.
9. Stability—characterized by non-caking and unchanged chemical composition and appearance.
10. They are *really* low cost—which *really* adds perfection to an already perfect repacking product.

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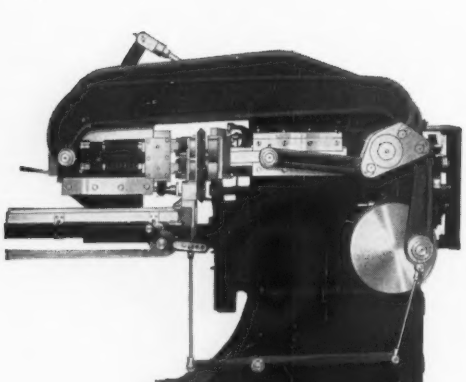

Type K Laundry Soap Press

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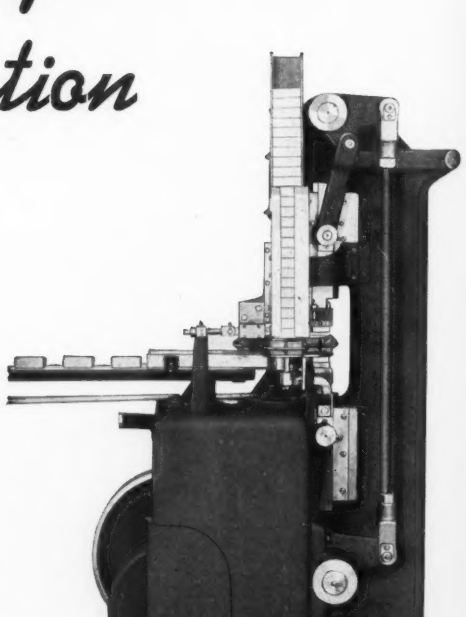

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As the Editor sees it..

THE unusually low current level of prices of soap making oils and fats reflects heavy domestic production over the past ten months, and the disappearance of foreign markets for fat surpluses, due to the British blockade. War influences, which twenty-five years ago were responsible for a sharp advance in oil and fat prices, have in the present conflict been converted into causes for a drastic price decline. As to future outlook, there seems to be some prospect for higher levels in the predictions of decreased lard and grease production over the coming year, and the expectation of higher levels of industrial activity. It is difficult to forecast any substantial upward swing, however, as long as most of the countries of Europe are cut off from their normal roles as the world's leading fat buyers.

IF YOU sell the same soap under several different trade names, you may be cited for misbranding, that is if we interpret correctly a recent cease and desist order issued by the Federal Trade Commission against a Pacific Coast soap manufacturer. This contention forms part of the complaint by the Commission which also contains several other points that have no bearing on this issue. The essence of the citation in question appears to be that the soaps sold under various names are held to be misbranded because they are made by the same formula.

For years, it has been the custom among soap manufacturers, especially the private brand houses, to make up a hundred and one different brands for their various customers from stock chip soap out of the same bin. The finished soaps may be perfumed and colored differently, but underneath, they are all the same soap stock. Even though one may be "Violette de France" and another "Savon Oriental" or what not, the soap which they contain "is made by the same formula,"—in fact, in the same kettle at the same time. Any other method of handling this type of business would be wholly impracticable and would force prices up to ridiculous levels.

Now, if we have the right slant on this feature of the Pacific Coast case, it could have drastic and far-reaching possibilities. The same principle widely applied could just about wipe out the private brand business of the country, not only in soaps, but in toilet goods, drugs, foods, and everything else. In the case under consideration, there may have been other factors not immediately apparent. Nevertheless, as they now stand, the reasons given for the basis of the complaint are calculated to cause much uneasiness among manufacturers, both private brand and others too. It would seem that the Commission should without delay make its position perfectly clear on the principle involved here.

SOAP makers who are occasionally embarrassed to a greater or lesser degree by the growing list of prohibitions emanating from the Federal Trade Commission can for once get a certain measure of support from a recent decision. We refer to the F.T.C. decision that the

makers of "Lady Esther" face cream are not justified in making advertising claims which tend to "mislead the purchasing public into the belief that soap and water are injurious to the skin and that they dry the skin." The commission denies that soap and water are injurious, and affirms that if they dry the skin the condition is merely a temporary one. We wonder what action may be anticipated against soap makers who continue to talk about "dishpan hands" that may be expected to result from the use of "ordinary" soaps.

IF we are to believe a newspaper statement, "soap and cleanser ingredients cause most housewives' eczema." And if there is doubt of the accuracy or veracity of the newspaper report, we must point out that the authorities for this scarehead declaration are three physicians writing in the September 21 issue of none other than the "Journal of the American Medical Association," that oracle of medical opinion. They make out a pretty bad case against soaps and cleansers and many added substances which these contain and which are known "to be eczematizing or allergenic agents."

About half-way through the newspaper report, we got to wondering how in heaven's name the great mass of our soap-using population had escaped eczema all these years. But we really did not begin to appreciate the true menace of soap to the health of the nation's skin until the authors mentioned that the alkyl sulfonate compounds were the answer and that they never cause eczema. But they did not stop here, going on to remark that these latter are neutral, that their calcium and magnesium salts are soluble in water, that "they leave no deposit of scum in bathtubs, sinks . . . and no greasy spots in clothing" and that they are better detergents than soaps.

At about this point, we began to speculate just where this "medical research" had begun and where it ended. Momentarily we suspected that we could detect the customary odor of commercial propaganda, but immediately banished any such thought when we recalled the high place where the paper had originally been published.

So, we must conclude after careful consideration of the findings of this research project that the people of this country are just plain lucky. Using, as we do, well over three billion pounds of soaps and cleaners yearly, how have we ever escaped becoming a veritable nation of eczematics? And has the soap industry been lucky too? Think of all the suits for damages it could have had. But maybe this neat invitation to the unscrupulous will help to change this.

SPECIAL "propositions" for retail dealers are no more popular today than they were a year ago. The merchants continue to view them as ordinary high-pressure sales schemes designed to sell them a larger quantity of any item or items than they would ordinarily buy and stock. The stockrooms of too many retailers bear mute witness to the fact that they were oversold on more than one special deal. Except in a small minority of cases, according to any number of retailers, the larger stocks of goods resulting from "taking advantage" of special propositions have been the cause of many a headache.,

With all sorts of deals very much in the dog-house as far as the retailer is concerned, some manufacturers are still attempting with special propositions to force larger quantities of their goods upon the retail trade. The reasoning is, of course, that if the dealer has the goods on hand, he will have to push them or else be stuck with them, —and in addition, just so much less room is left for competitive merchandise. And the dealer knows this. His resentment at the mere suggestion of a special deal is understandable. And until his feelings change, it would seem that anything which avoids arousing this resentment would constitute smart selling.

GLASS CLEANERS

By Dr. C. A. Tyler

Comments on the trend in type and composition of glass cleaner liquids during the past two years

WITHIN two years, proprietary glass cleaners have become so well known and so widely used by the housewife and others that they are now stocked by grocery, hardware, chain, and other stores as routine items. Their use began some five years ago by the gas-station attendant for quick cleaning of automobile windshields while the gas tank was being filled or while the driver was waiting for change. The object was to do a reasonably satisfactory job on the windshield in the minimum of time,—in minimum time partly because the service was rendered gratis and under such circumstances the attendant could not be expected to perform a job of hard labor, and partly because the occupants of the car were always in a rush to be off. Because special glass cleaners were found to give more satisfactory performance under these conditions, their field was gradually extended to household and other uses.

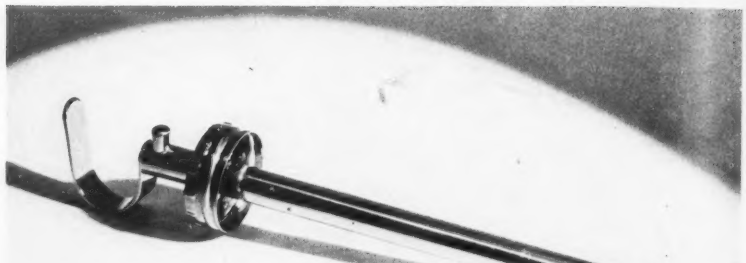
One of the most cogent reasons for the success of these products no doubt lies in the fact that they are usually sold and used with a handy spraying device. This permits a light, even distribution of the liquid over the surface of the glass in a moment's time, an ideal method of application not only from the point of view of the labor involved but also from the cleaning end. The spraying device permits the easy cleaning of show cases, a task previously much more awkward and messy. Because the housewife associates a specially bottled liquid with the use of her window atomizer, it would probably never occur to her to use a few drops of ammonia in water the same way,—ammonia in water being one old standby in the home for cleaning windows. Nor would this be apt to occur to the gas station attendant, even though one of the commercial glass cleaners sold through service stations contains ammonia as its active ingredient. The spraying device, probably even more than the particular liquid used, constitutes an advance in the saving of labor and time.

Nine times out of ten, the problem of cleaning windows, mirrors, show cases, windshields and other flat glass surfaces is the same because in most cases the layer of soil to be removed is relatively light. Any method that succeeds in the one case should be equally applicable to the other. The soil consists of a thin film of oil covering the glass surface, with minor amounts of dust, dirt and grime adhering to this. Often the dirt may not be visible as such but merely as a haze whose interference with vision is best demonstrated

by the contrast observed after its removal.

With this in mind, one observes that detergency as a property of glass-cleaning fluids is not necessarily of first importance. It is true that the soil has to be wet but this can be accomplished without the use of either soap, or of the type of compound usually classed as a "wetting agent." What actually happens is that one wets the glass and then rubs the dirt off on a cloth or a towel, the friction of the cloth and the energy of rubbing being the means for removal of the soil,—the method being parallel to that used by most small boys in washing their hands.

While soap solution is of course an excellent wetting agent, it is unsatisfactory for washing glass because it is hard to rub dry and more particularly because enough soap remains on the glass to leave a cloudy effect instead of a clear bright surface. With the use of soap solution under any conditions rinsing should always follow, which is not practical in window and windshield cleaning. Why not use plain water? This would probably work as well as some of the window cleaners that have been on the market, but plain water can be very greatly improved on.



THE largest number of successful glass cleaners now on the market are based on alcohol of one kind or another, ethyl, methyl, iso-propyl, etc. An alcoholic solution makes a better wetting agent than water alone. If a few drops are placed on glass, the alcohol will spread while water will form droplets, showing that the interfacial tension between the alcoholic solution and the soiled glass is lower than that between water and soiled glass. A second advantage is that alcohol is more volatile and the alcoholic solution tends to dry more quickly than water. This speeds up the drying process so that the glass requires less rubbing. A third advantage is that since alcohol is itself a liquid, no solid deposit can be left from it on the glass.

The amount of alcohol present in commercial glass cleaners varies all the way from a few per cent up to 95 per cent. In the latter case the alcohol is sold in a one-pint can, but this can be diluted according to directions on the label to make 1 gallon. This dilution would correspond to about a 12 per cent solution of alcohol. A product designed for sale through ten-cent chain stores contains about 6 per cent of alcohol and sells for ten cents for a 12-ounce bottle. This works out to a fraction of a cent for the cost of the active ingredient present. Another product containing 20 per cent alcohol retails at 50 cents for an 8-ounce bottle,—which also works out to a fraction of a cent for the alcohol content. These undoubtedly represent extremes of retail pricing, but they also serve to show that the cost of the active ingredients is exceedingly small. Other products contain 35 per cent, and 70 per cent of alcohol. The higher the alcohol content, the quicker the liquid dries, and the more efficient it is in cold weather, especially at temperatures below the freezing point of water. For ordinary use it is considered advisable to set the alcohol content at not less than 20 per cent, and preferably well above this figure.

Although completely denatured alcohol can be and is used, this has a disagreeable odor and is often avoided for that reason. Specially denatured alcohols are quite suitable and can be purchased under government regulation, but the amount of red tape involved makes it hardly worth the trouble. Isopropyl alcohol costs only slightly more than specially denatured ethyl alcohol, can be brought freely and serves the purpose exactly as well as ethyl alcohol.

Another means of avoiding the purchase of government-regulated specially denatured alcohols is the use of special solvents. These are sold under various trade names as proprietary solvents. They are based on modifications of a standard alcohol formula known as SD-1-modifications which make them substantially "completely denatured" rather than "specially denatured." As sold, 100 parts of 190-proof or 95 per cent alcohol have added to them 5 parts of ethyl acetate denatured with 1 part of aviation gasoline and a very small amount of wood alcohol. There is not sufficient wood alcohol present to require a poison label on the container. The products are characterized by a mild odor of ethyl acetate, an odor familiar in nail-polish remover. These liquids have come into wide use in industry where the solvent properties of alcohol are needed. They serve as the practical means of avoiding the nuisance of government regulation, permits, reports, etc.

One of the best known and most successful glass cleaners contains a dihydroxy alcohol, specifical-

ly, about 3 per cent of ethylene glycol. This does not appear to be patented in the United States; a Canadian patent was obtained on this composition some years after the product had been marketed here, but not by the original discoverer. Ethylene glycol does not function in the same way that a monohydroxy alcohol does in that the former does not act as a wetting agent. It balls up in droplets on a glass surface in the same way that water does. It certainly has no detergent action. However, applied in very dilute solution as a spray, it can be wiped off a glass surface very quickly and easily, possibly more easily than ethyl alcohol. It does not owe this effect to evaporation since ethylene glycol is not a volatile liquid. It is hygroscopic, so that possibly a slippery invisible film of liquid remains on the glass, making it very easy to rub off excess liquid. Glycerine, a trihydroxy alcohol, works to some extent, but not nearly as well as ethylene glycol, as glycerine in a very thin film tends to be more gummy. Perhaps the best way to describe the effect of ethylene glycol is that it acts as a lubricant. The dirt is still removed by the cloth or towel, but the energy required to rub off the moistened layer of soil is reduced to a minimum.

Diethylene glycol, also a dihydroxy alcohol, acts the same as ethylene glycol. A commercial product combines lubricant and wetting action by its content of about 1 per cent of diethylene glycol and about 45 per cent of isopropyl alcohol. The latter hastens drying and also helps to moisten soil of a fatty or oily nature. A similar product contains 35 per cent of denatured alcohol and 1 per cent of ethylene glycol. The lubricant effect would probably be much better if the glycol content were increased to about 3 per cent. Too much cannot be used, as this defeats its purpose by making the rubbing more difficult. With the cost of diethylene glycol about 16 cents a pound, and ethylene glycol about 19 cents a pound, use of a 3 per cent solution of either would cost less than one cent a pint in the final product. With the great majority of these products, the bottle represents the major cost in materials, with a price in the neighborhood of 3 cents each, according to style and quantity. The spraying device is often sold as a separate item, made to fit a standard cap for these small bottles, its cost in turn being greater than that of the bottle.

One commercial cleaner combines alcohol with ammonia, while another contains ammonia only as the active ingredient. While ammonia water acts as a wetting agent and evaporates quickly, leaving no residue, it possesses the disadvantages of an unpleasant and penetrating odor besides having an irritating effect on most hands, eyes and noses. For this reason housewives can be expected to prefer the newer alcoholic glass-cleaning liquids to the old ammonia solution.

FOR many years the professional window cleaner, flitting from perch to perch on the bleak outer ledges of skyscraper windows, has used, and still uses, a dilute solution of trisodium phosphate. This he applies quickly with a brush and then runs over the wet

surface with a squeegee, sometimes drying the corners with chamois. The solution of trisodium phosphate is a good wetting agent for the oily film on the glass. When rubbed dry with a cloth as is ordinarily done by the automobile service man and the housewife, more rubbing is required than when a volatile liquid is used. Trisodium phosphate is a white crystalline salt, so that theoretically there is a tendency for a light deposit of the solid material to remain on the glass, causing streaking. While trisodium phosphate is an excellent agent for soaking up and thus helping to remove the soil, it does not leave as brilliantly clear a surface as can be obtained with a solution of a volatile liquid.

Perhaps taken from the practice of window washing with trisodium phosphate is a commercial product produced in tablet form, each tablet to be dissolved in a half pint of water. Further instructions on the label say that "if fast drying is desired add a little alcohol". Examination of the tablets show that they consist of a salt mixture made up of about 89 per cent of borax and 11 per cent of sodium metaphosphate. Borax possesses only a very mild degree of wetting power and sodium metaphosphate possesses even less. Borax is a salt that crystallyzes with nearly 50 per cent of water, which accounts in part for its extremely low price.

Both borax and trisodium phosphate no doubt owe what wetting action they possess to their hydrolysis alkalinity, borax giving a very slightly alkaline solution, trisodium phosphate a fairly strongly alkaline solution. Sodium metaphosphate is not an alkaline salt. Its field of usefulness is with soap in hard water as a calcium-sequestration agent to prevent the precipitation of calcium soap. Because it has proved highly beneficial in this particular application some people may have come to associate it with the action of wetting agents or of detergents in general. It is neither the one nor the other. The use of sodium metaphosphate with an alkaline salt in a window cleaner shows that the manufacturer does not understand the nature or function of the compound.

Another glass cleaner sold in tablet form contains as its active ingredient a synthetic wetting agent. This is combined with Seidlitz powder which is a mixture of an organic acid with sodium bicarbonate and other alkaline ingredients. When the tablet is dropped into water, effervescence occurs producing carbon dioxide. This causes the tablet to disintegrate rapidly, thus dissolving more readily.

Prepared solutions of some of the synthetic detergents have been tried as glass cleaners, a solution of a sulfated organic detergent still being sold through a chain grocery store. Such a liquid should have good wetting action, but being a solution of a solid material may show a tendency to produce streakiness on the cleaned glass surface. If one wishes to try out new compounds for this purpose, it might seem desirable to seek one which is itself a liquid at ordinary temperatures. It does not necessarily have to be a volatile liquid, as demonstrated in the case of ethylene glycol. Some of the new quaternary ammonium compounds which were developed as wetting agents for use in the textile industry are liquids and should qualify as good glass cleaners. The practical aspect of this is that the cost of such compounds is very high as compared with the cost of the alcohols and glycols.

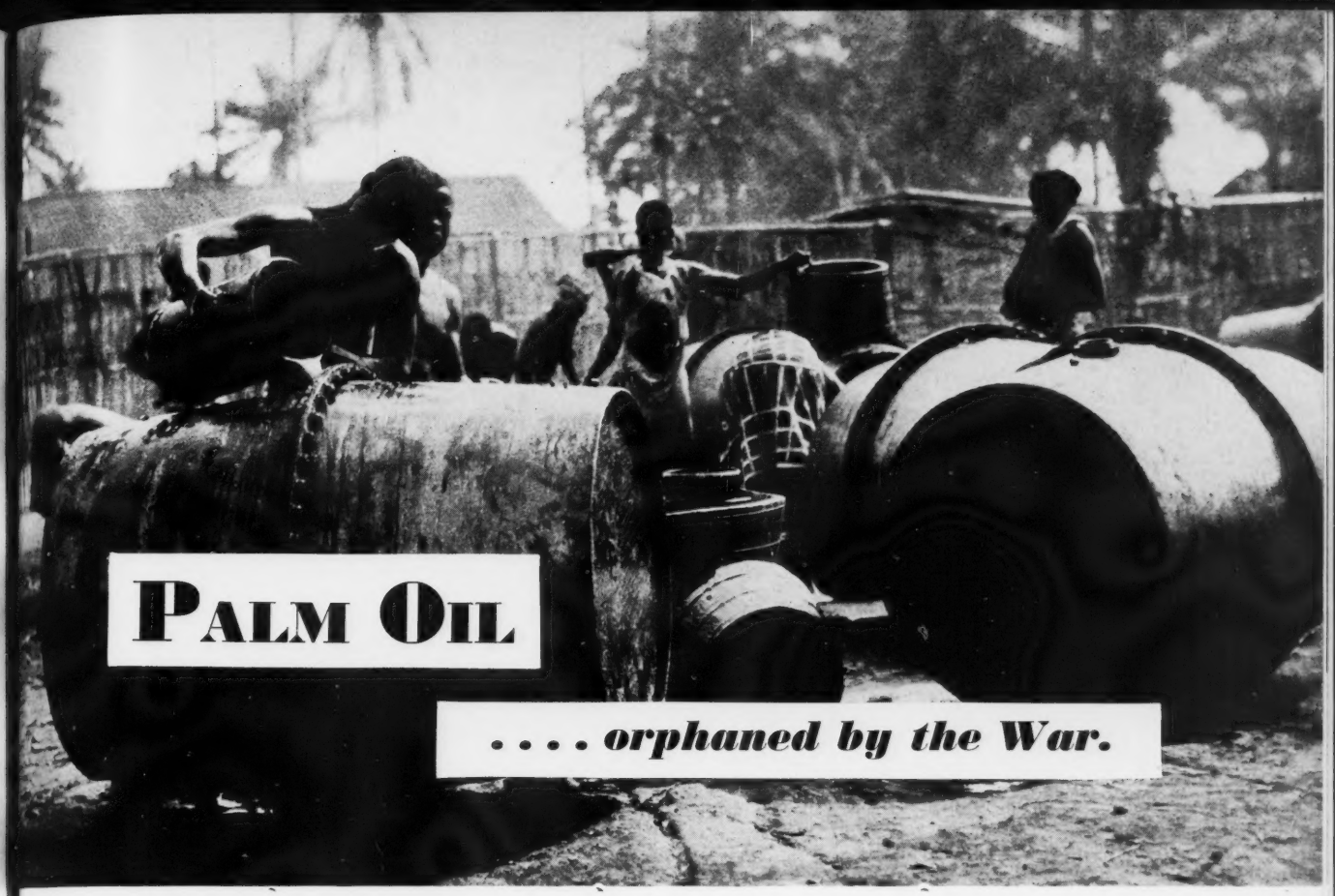
MOST glass cleaners contain a trace of water-soluble dye, many of them being a light sky-blue which matches as closely as possible the color of the first nationally advertised product in the field. This assumes, perhaps rightly, that appearance plays a large part in the mind of the user of the product, that it will be remembered and described by its color as much as by its brand name. The color, of course, has nothing to do with it, since all of the compounds discussed give colorless solutions. Some products are dyed green, some pink. Dyes were probably used in the first place to convince the user that the products were something special and not just plain water or other simple and familiar liquid. Whatever the intent, color has no doubt proved a boomerang in the case of the sky-blue product, what with numerous competitors offering liquids identical in appearance. But once started, there seems no easy way of changing, or of educating the public to the extreme variability in nature and corresponding efficacy of colorless solutions.

Since most of the commercial products are simple alcoholic solutions, they have practically no odor of their own, or possibly a slight odor of ethyl acetate from the denaturant. There being no unpleasant odor to cover up, most products have no odorant added. A few contain a trace of perfume, mostly a pine-type odorant. Any use of a perfume is purely psychological except that a few odorants might conceivably have some solvent action. Some manufacturers insist that their products have a definite pleasant characteristic odor, to identify their product by odor as well as appearance, to mask the simplicity of its composition, and to cover any identifying odor of the materials which the product may contain.

THE housewife in cleaning windows does not have to meet the main problem which besets the motorist, that of dead insect removal. At some season of the year and in some parts of the country, the windshields of motor cars become matted with the tiny, dried bodies of dead insects. These cannot be simply brushed off and they cannot be easily washed off. They behave as if stuck on with glue, as is actually the case since glue is made from animal proteins. Heat bakes the protein present in the body fluids of the insects onto the windshield and leaves a hard crust.

The best way to get baked or dried protein off a glass surface or any other surface is to scour it off.

(*Turn to Page* 123)



PALM OIL

. . . . orphaned by the War.

PALM oil prices in today's oil and fat market are lower than ever before in the history of trading in the United States. Prices are so low that producers are barely covering their expenses of harvesting, processing and shipping the oil to market. In many cases it is quite probable that they are actually selling below cost. Yet, even though palm oil prices are at their lowest ebb in history, they are still considered high by American buyers in comparison with the even lower prices of competitive domestic fats and oils. Palm oil can hardly go much further down the price scale; it is now practically at rock bottom and, if it went any lower, the producers would literally be giving it away. At the present price of 1¾ cents a pound it is obvious that producers must be operating on an extremely unhealthy basis. Of the 1¾ cents a pound, (shipment, bulk), about three-quarters of a cent a pound goes to pay for transoceanic freight charges, while the remaining cent must cover all the other expenses of the producer, plantation overhead, native labor, processing charges, and so on. What a contrast this presents with the situation back in 1918 when palm oil was selling at 35 cents a pound! A war situation then and a war situation now,—but what diametrically different results have been produced.

There are many interrelated factors now at play which account for the present position of palm oil in the oils and fats picture. Since 1937 when prices were up to a level of 7⅜ cents a pound, palm oil quotations have dropped steadily, except for a temporary rise immediately following the outbreak of World War II. During the period since 1937, the production of fats and oils in the United States has increased steadily, approaching record levels. This fact, together with a pronounced shrinkage of export outlets for lard over recent months has tended to depress prices of all fats and oils in spite of an improvement in domestic demand. Palm oil, as well as other fats and oils, has been seriously affected by the dislocation of world markets due to the British blockade and other factors resulting from the war.

In order to appreciate the far-reaching effects of the British blockade on palm oil markets, it is necessary to compare the pre-war trading picture with the present situation. In 1939, for example, approximately 40 per cent of the total world production of palm oil went to Germany, Holland, Italy, Belgium and France. Almost all of the remaining 60 per cent of world production of more than 500,000 metric tons went to Great Britain and the United States, Great Britain taking about 35 per cent and the United States accounting for the other 25 per cent. Since the blockade has become effective, practically no palm oil has passed through to the five European countries mentioned above. The oil which would ordinarily go to them has simply backed up at the primary sources.

The United States, the one sizable open market in the world today, is unable to consume the vast supplies of oils and fats already at its disposal and consequently is importing less palm oil than in previous years. It has been estimated that the total imports of palm oil into the

Palm oil from the estates of Sumatra is the best quality. The nuts are comparatively small in size and grow in large clusters on carefully cultivated trees.

United States in 1940 will be only slightly more than 200 million pounds as compared with the 1939 figure of 286 million pounds. Due to the strict censorship of such information by the British government, it is impossible to determine the quantity of palm oil imported by the United Kingdom during the current year. It is believed in certain quarters, however, that Great Britain is now importing less palm oil than before the war began. The size of her pre-war exports, it is believed, enabled her to build up sufficient stocks so that some of the vessel space previously assigned to materials of this type could be utilized for more highly essential supplies.

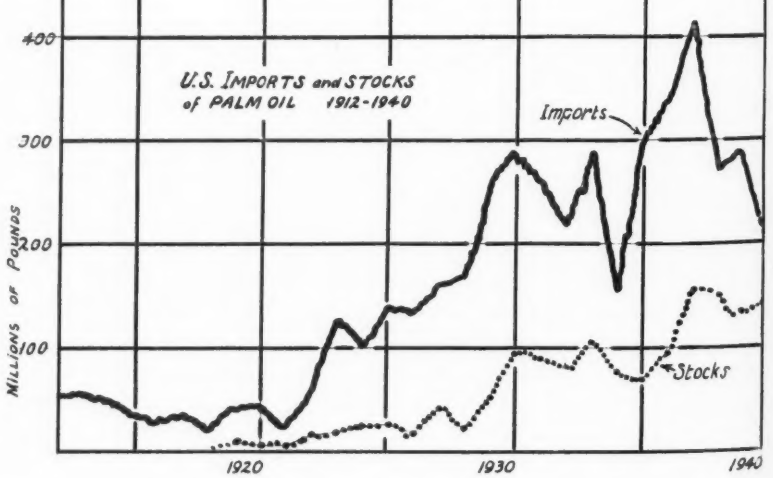
With Great Britain and the United States importing smaller quantities of palm oil than normally, and the imports of the principal oil-importing countries of continental Europe completely curtailed, it is apparent that there is today no market in the world for almost half of the world's normal production of palm oil. Faced with this situation, producers of palm oil in West Africa and Sumatra have commenced to reduce production as a measure of economy. A certain proportion (40 per cent in some cases) of the harvested fruit is reported being destroyed.

It may be necessary to continue this reduction of production as long as the present dislocation of world markets persists. For if a market cannot be found for a large percentage of the oil, it can only be stored,—and palm oil will not keep indefinitely in tropical climates. It is not known definitely whether palm oil production is also being reduced in the British-controlled colonies of Nigeria and British Malaya. From these colonies, Great Britain obtains the majority of her palm oil and palm-kernel requirements, — at her own terms and prices during the present war, of course.

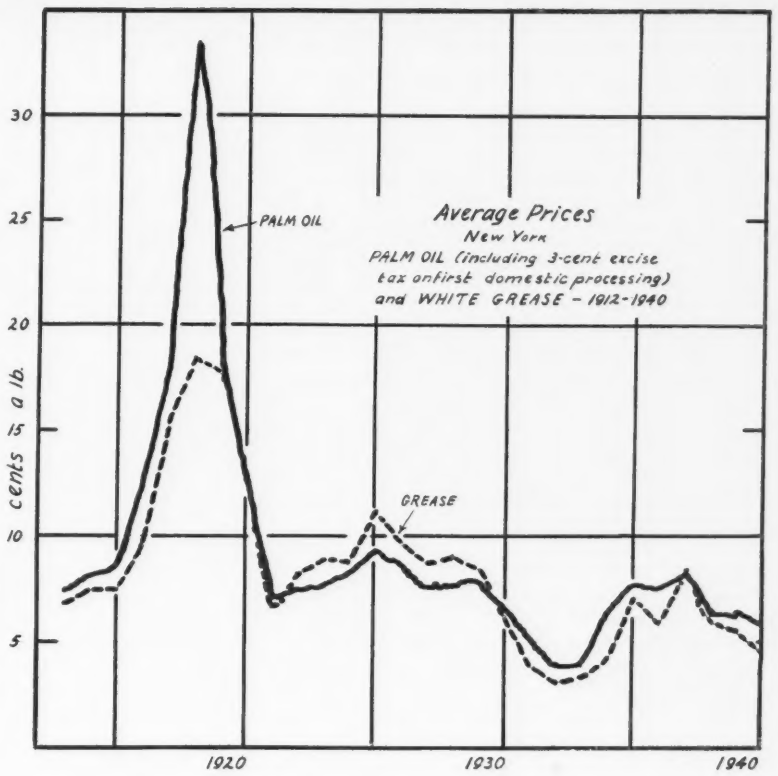
The United States, then, is today the only important open market for palm oil. Plentiful supplies of low priced competitive fats and oils for shortening manufacturers, soap makers and other users and already huge stocks of palm oil in storage have combined to force its price downward to its present all-time low. Speaking generally, the price of an oil or fat may be taken as a rough measure of the demand of importing countries and of the supply of exporting countries. In this case, the demand is weak and the available supplies from the sources are larger than ever before. The demand in the importing country depends on the relationship between the various competing commodities, each of which is in constant balance with the others. The price of each commodity hinges on the prices of the fats and oils which could be used to replace it; the price of each competitive material acts as a floor or brake on sudden changes in the price of certain other oils.

In the current price structure of the American fat market, tallow, grease, soybean oil and certain marine oils are cheaper than palm oil at 4¾ cents a pound (including the 3 cents a pound excise tax on the first domestic processing). Special tallow at 3¾ cents a pound, fob, is one cent a pound cheaper than palm oil; yellow house grease at 3½ cents a pound is 1¼ cents lower than palm, while crude soybean oil at 3⅞ to 4 cents a pound also is in a favorable position with respect to palm. As long as these domestically produced competitive fats and oils continue to hold to the present low levels, it is probable that no advance in the price of palm oil will be possible. In fact the price of palm oil may serve as a contributing factor to limit somewhat any future advances in prices of competitive materials.

According to information recently released by the U. S. Bureau of Agricultural Economics, the general level of domestic prices of fats and oils in 1941 probably will be higher



than the extremely low level of 1940. The production of tallow, grease and lard will undoubtedly be smaller and, while a further decline in exports may take place, it is believed that smaller production and an improvement in domestic demand due to increased industrial activity will lead toward generally higher prices, say the government economists. If this forecast of conditions is correct, the competitive oil-palm oil price ratios may again become more favorable toward palm oil producers. The fact that the production of soybean oil is expected to be increased by about 5 per cent should not have a depressing effect on prices providing the anticipated stimulating effect of defense spending is finally realized. Just when the effects of the national defense program are going to make themselves felt is a matter of conjecture. The materialization of such industrial stimulation seems to be long overdue.

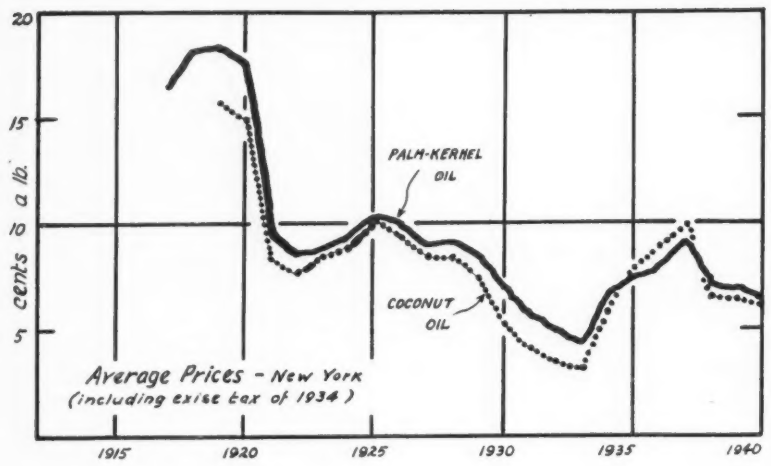


CLOSELY associated with palm oil, and a product of the same tree, is palm-kernel oil, which at one time was one of the most important soap stocks for American soap makers. Since 1937, imports of palm-kernel oil have declined steadily, and the percentage of total United States consumption by soap makers has also decreased considerably. Fifth in importance as a soap stock in 1937, "PK" had dropped to eleventh place last year and preliminary figures for 1940 indicate that probably even less palm kernel oil is going into the soap kettle this year. Here again, as in the case of palm oil, is a situation governed principally by relative prices. The decline in use of palm kernel oil has taken place concurrently with an increased use of coconut oil and babassu oil. As babassu oil, by reason of a trade agreement with Brazil, is not taxed on the first domestic processing, as are palm-kernel oil and coconut oil, it can compete on an equal footing with these oils even though priced 3 cents a pound higher. A comparatively insignificant quantity of palm-kernel oil is currently being consumed in the United States even though its properties recommend it as a stock for quick lathering soap. In the United States a larger proportion is being used in edible products than in previous years, however, for as an edible stock it can compete on a more favorable price basis than as a soap oil.

At the present time, the extremely low price of palm-kernels has produced a situation such that it is hardly profitable to go to the expense of crushing the kernels. The palm-kernel is one of the most refractory oil-seeds to crush and the United States has largely imported the oil from foreign countries which perform the extracting operations. In 1937 Germany supplied the United States with the majority of its palm-kernel oil requirements, the balance of the oil coming from Denmark, the Netherlands and the United Kingdom. While the war continues, these countries will not, of course, be in a position to carry out their normal commercial activities. Great Britain seems to be the only large importer of palm-kernels and palm-kernel oil at present. Undoubtedly what cannot be marketed is being destroyed or used as fuel at the primary sources.

IT is interesting to compare the present situation on palm and palm-kernel oils to the situation existing just after the beginning of the first World War. In 1915, the average price of crude palm oil, casks, New York, was 8.5 cents a pound. The average price rose to 12.2 cents a pound in 1916 and to 33.5 cents in 1918. Grease, averaging 7.4 cents a pound in 1915 was advanced to an average price of 18.4 cents in 1918 while inedible tallow rose from 9.4 cents to 17.2 cents during the same period.

Production of inedible tallow and greases in the United States back in 1918, it must be remembered, totaled only 529 million pounds. Total annual production last year was 1,127 million pounds. This upward trend in production, paralleled by similar increases in other oils and fats throughout the world, has materially increased the available per capita amount of consumable fats. It is not expected, therefore, that prices during



the present world disorganization will be affected to anywhere near the same extent that they were twenty to twenty-four years ago.

Another factor in the price structure of the oil and fat market during the last war, which does not exist today, is the tremendous demand that then existed for glycerin. Not so highly necessary as a war material today, glycerin is no longer an important controlling factor in the oils and fats picture. As sources of glycerin, palm-kernel oil and coconut oil, which yield approximately 19 per cent of glycerin, were especially valuable during the last war. This to some extent influenced their meteoric rise in price, as well as the prices of all glycerin-yielding materials.

The high price of oils and fats following the last war was really responsible for the development of the tremendous palm oil industry in the East Indies. Conceived in an era of high prices, the greatly increased production of palm oil in Sumatra, the Dutch East Indies and British Malaya added materially to the world's fats and oils supply. Add to the increased production of palm oil the whale oil industry which was stimulated at about the same time and it is possible to account for a 6 per cent increase in the world's fats and oils supply which had not previously been tapped.

Before 1914, almost all the palm oil in the world came from West Africa. From the palm plantations of the Netherlands Indies, however, came larger and larger quantities of the oil to the United States until, in 1931, British West Africa was surpassed as a source for palm oil.

Since the East Indies have in recent years become the principal source of American palm oil imports, recent developments in that region are giving rise to a certain amount of speculation regarding the future status of these producing areas. The fact that all the palm oil producing regions are in colonies of countries conquered by or at war with the newly-formed tripartite Axis makes their position somewhat insecure to say the least. However, in spite of the ambitious activity of Japan and her thinly-veiled threats of conquest in the East Indies, many producers of palm oil express confidence that Japan will not be able to gain control of these rich islands. Their valuable deposits of tin and tremendous resources of other natural raw materials such as mineral oil make them indeed a great asset to the countries which control them.

It is considered probable therefore, that the Dutch and the British have taken strong measures to protect their colonies in the far East. Their proximity to the Philippines and the interest of the United States in preventing either the Philippines or the East Indies from falling into the hands of the totalitarian governments is also a point worth considering. The United States would certainly not stand idly by while Japan invaded these regions. Fully cognizant of this fact, Japan will undoubtedly think twice before incurring the open enmity of the United States.

This, however, is mere supposition. As far as palm oil is concerned, even if worse came to worst and the United States were by some circumstances cut off completely from any new imports of the material, enough would still be available for some time to come. Present stocks of upward of 130,000,000 pounds could, if necessary, last for well over a year. The minimum requirements of the United States at the present rate of consumption are about 50,000,000 pounds per annum. This figure takes into account the expanding manufacture of tin plate as a result of the defense program and the concomitant increased need for palm oil in this industry as a flux. It also takes into account the minimum requirements of the soap industry. Although many other fats and oils can take its place in the manufacture of soap, certain soap formulas are so standardized that the proportion of palm oil is more or less fixed. This proportion in some cases could not well be changed without altering perceptibly the quality of the soap.

That a situation should arise whereby the United States would be cut off from new imports of palm oil seems improbable at the moment. Yet unless this happens there seems to be little likelihood of an advance in the price of palm oil from the present low level. It seems likely to remain a drug on the market, even though priced at the lowest figure on record.

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Offers Reference Service

The Hooker Scientific Library, operated as a non-profit institution by Central College, Fayette, Mo., has inaugurated a new service for chemists who lack convenient access to chemical reference works. For a nominal fee the library will send data on any question which can be answered by reference to a chemical manual, dictionary or index such as Beilstein, Mellor, Thorpe, Ullmann and the like. Estimates can be rendered in advance for extensive inquiries.

Alkali Silicates

Manufacture, properties and uses of silicates of 1:1 ratio and higher

(Part II)

By Dr. Foster D. Snell

MANY metal surfaces have to be cleaned, in some cases for metallic plating. The substances to be removed are paraffine oils with or without admixture of alkali metal soaps, saponifiable oils such as palm oil, heavy metal soaps and inert soil of various sorts. The latter often includes grease and abrasive deposits left by buffing compounds. Of these, removal of petroleum oil not admixed with soaps or saponifiable oils is most difficult but fortunately rare. The use of caustic soda for the general purpose is common but where control of alkalinity is desirable or corrosion of the metal is a problem, the varying degrees are readily obtainable with silicates. Soaps, particularly rosin soaps, are often added. Sprays, brushes and rolls often assist in such cleaning operations[12].

Electrolytic cleaning methods are well known in which evolution of gas from the surface of the metal being cleaned serves to dislodge soil. Alkaline silicates do not give silica deposits on the anode. High conductivity which accompanies high ionization and extensive hydrolysis makes the highest alkali-ratio silicate preferable to lower ones, provided no attack on the metal occurs. Sodium hydroxide in equal concentration gives even greater conductivity. The excellent wetting power of alkaline silicate solutions against oils[46] and their ability to saponify animal and vegetable oils are important, but in these respects sodium hydroxide is also very good.

Weakness of sodium hydroxide with respect to deflocculating and emulsifying power has been established[47] but comparable data on sodium orthosilicate are lacking. Typical uses are for cleaning of steel sheets before tinning or galvanizing and in fact for all metals prior to application of protective coatings.

A few years ago the cleaning of automobile radiators was entirely a garage job. Then liquid silicates of low alkali-ratio were applied. At the present time alkaline salts such as soda ash and trisodium phosphate are used freely and here too alkaline silicates, particularly the metasilicate, find favor. In this case, the material is sold in dry form in suitable containers to be emptied into the radiator and does not contact the hands of the user.

A troublesome form of metal cleaning is that of aluminum. Typical materials are jar caps. With properly selected concentration, one per cent for example, sodium metasilicate does not attack even though the pH is actually higher than of sodium carbonate and trisodium phosphate solutions which do[52]. The reason is in the protective effect of the silicate radical, shown in another application by addition to products such as shaving cream to be packed in aluminum tubes. This property is of such importance that there is not believed to be a good aluminum cleaner which does not contain silicate.

A parallel cleaning operation is on tinned surfaces, such as of tinned cans, bakery pans, industrial molds for food products, etc. In washing of tin containers there is even less loss of metal by use of metasilicate than by modified soda, presumably due to protection by adsorbed silica. Both tin and aluminum are attacked by sodium orthosilicate solutions so that practically speaking the use of less drastic types is indicated.

These alkaline detergents are also used in drum cleaning, removal of paint residues and various miscellaneous forms of alkaline cleaning. In general the tendency to etch metals increases with the greater alkalinity so that a proper degree of alkalinity must be selected for any specific purpose.

Glass Cleaning

Sodium metasilicate solutions have better wetting properties against glass than trisodium phosphate or sodium carbonate[2]. While quantitative data are not available, sodium sesquisilicate and sodium orthosilicate are believed to be even better. It has been found that sodium metasilicate displaces petroleum oil from glass surfaces over a wider range of concentration than solutions of trisodium phosphate and sodium carbonate[2]. This too can probably be extended to predict even better effects from sodium sesquisilicate and sodium orthosilicate.

Various glass surfaces require cleaning industrially. Probably milk bottles represent the extreme case since they must be sterilized at the same time. For this purpose mixtures of sodium carbonate, trisodium phosphate and caustic soda

have been used. A pH of 12.0 is desirable, at which concentration caustic soda solution etches glass. Similar concentrations of sodium metasilicate do not. This is particularly true with types of bottles relatively new on the market with the company name in colored glass. That glass is in general softer and more easily etched. The behavior of alkaline silicates here in sterilizing the milk bottles may well be that of a detergent, removal of bacteria by rinsing them away, as much as by killing them. It is known that it does not kill as quickly as caustic soda. A curious problem is encountered in washing milk bottles when they slide along metal guides by gravity. Water or caustic soda solutions serve as lubricants for the purpose but alkaline silicate solutions tend to lessen the film between the metal and the glass so that they do not s'ide so well.

The effect of a satisfactory detergent in giving a glass surface which will drain freely is too well known to necessitate description. Some sodium metasilicate is used in mechanical dishwashing, usually as a blend with less alkaline salts. There is no good reason why it may not be safely applied in controlled concentrations.

In Textile Detergency

Some members of the textile industry have long searched for a more alkaline silicate, the laundry industry being accepted as a branch of the textile industry since it is concerned with cleaning of textiles. "Special Alkali" consisting of a mixture of caustic soda and soda ash has been an attempt of that industry to get a buffered alkalinity yet a large available alkalinity. Logically sodium sesquisilicate or even better sodium orthosilicate can be expected to meet that need and is in fact being accepted by the industry.

The electrometric titration curves of sodium hydroxide, sodium orthosilicate, sodium sesquisilicate and sodium metasilicate show as expected, the initial pH and the total available alkalinity falling in the sequence as listed above, provided consideration is on an anhydrous or equimolecular basis[45]. Therefore in that property the silicates may be used to furnish varying degrees of alkalinity below that of caustic soda.

Such use of silicates can hardly be described as entirely new. More than 10 years ago the addition of siliceous silicates with caustic soda in various textile plants was practiced. Although there may be reasonable doubt as to the extent to which this was on a theoretical rather than a rule-of-thumb basis, the final result was an alkaline silicate of varying ratio according to the proportions used. Other work indicates a definite possibility of a time lag in the reaction to form the highly alkaline silicate but the end result is not altered.

When both an alkaline salt and soap are present the addition of a third substance which would react with alkali to lower the pH will cause reaction with the alkaline salt or the soap, whichever has the higher pH. There are exceptions to this only if the product of the reaction is insoluble in water. This is one basis for use of salts giving solutions more alkaline than that of soap, about pH 10.2, as laundry soap builders[45].

In efforts to make composite evaluations of detergency using artificially soiled fabrics some discrepancies have resulted, due in part no doubt to differences in technic. Thus Morgan[37] rated in decreasing order sodium metasilicate, caustic soda, trisodium phosphate and soda ash, while Rhodes and Bascom[40] gave ratings of soda ash, trisodium phosphate, caustic soda. Our own data[48] agree with Morgan and place sodium orthosilicate above the metasilicate. What is probably more significant is that current laundry practice appears to substantiate Morgan.

Aside from other functions these serve to protect the soap from decomposition by acidic substances from the fabric and carbon dioxide from the air. One phase of this is reaction with bicarbonate from the water supply. When a water high in bicarbonate alkalinity is softened with Zeolite or equivalent, the acidity of the calcium bicarbonate relative to soap remains as that of sodium bicarbonate. The curve for sodium bicarbonate in figure 2 is illustrative of its effect. With a more alkaline material present reaction will take place, such as with sodium orthosilicate,

$$Na_4SiO_4 + 2NaHCO_3 \rightarrow Na_2SiO_3 + 2Na_2CO_3 + H_2O$$

The resulting solution will still be sufficiently strongly alkaline to serve as a satisfactory builder, even though this reaction has gone on to a considerable extent. The effect of absorption of carbon dioxide from the air is similar and may be a substantial factor.

The high efficiency of silicate in deflocculation and suspension of dirt has been established both on a laboratory basis and in practice[47]. The additive nature in soap mixtures of the values of soap alone and builder alone is significant in showing that while cooperative action is important in relation to wetting power it has no significance in deflocculating and emulsifying power. This property is an important factor in the textile use of these silicates.

Silicates have a definite effect in stabilizing the bleach used in laundering and thus economizing on the amount required[9]. While this published work was done with siliceous silicates, unpublished work indicates that it is also true for highly alkaline silicates. This is important as the major source of deterioration of cotton goods in laundering is by mechanical damage or by high concentration of bleach. One factor often overlooked in popular comments is the wear of the fabrics on each other and on the inside of the wheel. Such wear alone will destroy a sheet in about 150 launderings. A minor source of damage is by residual alkali remaining in the fabric at the ironing operation, provided a proper scouring procedure is not used.

Indications are that even the most alkaline silicates cause no de-

terioration of fabrics, provided of course that they are not applied in concentrated solutions. A good case can even be made for highly alkaline silicates as being beneficial on the whole by the reasoning that a strong break and strong suds operations reduces the time in the wheel and cuts down mechanical wear. The maximum alkalinity permissible in laundry detergency has been stated in various references. That there is no optimum pH up to about 11.6 has been established by Baker[2].

In the absence of agreement between data of different investigators it must be assumed that no maximum has been ascertained. It is probable that such a maximum will only be reached under conditions where salting out of the soap is reached or at least approached. On this basis the use of rather modest amounts of strongly alkaline builders, even sodium hydroxide under proper control is probably more satisfactory than the use of large amounts of less alkaline salts as is often practiced when soda ash or modified soda are used[48].

The economy in use of these silicates in soap-silicate ratios of 1:1 to 1:2 for varied classifications from flat work to very rough work is obvious. Some laundries use metasilicate with additional caustic soda which becomes equivalent to sesquisilicate or orthosilicate. In others siliceous silicates are mixed with caustic soda to produce various alkaline silicates. In general the more soiled the fabric the greater the alkalinity used. Similar methods are applied to laundering of rags, cotton waste, butchers' towels and other heavily soiled classifications. The washing of feathers and down for pillows is closely related to laundry detergency and the procedures using metasilicate are analogous.

The defiocculating and emulsifying power of soda ash drops off before pH 11 is reached, that of caustic soda below pH 12 but that of sodium metasilicate only between 12 and 12.5. This is undoubtedly an important factor in setting the maximum alkalinity for detergent efficiency. It follows that such a maximum can only be valid for any given mixture, not for all mixtures giving that pH value.

There are data which indicate that the use of silicates brightens colors so that after a considerable number of launderings the color is better than of the original fabric.

Heavy Duty Floor Cleaning

The cleaning of such floors has been a problem for many years, garages being a typical example. High alkalinity serves to attack and cut the grease, probably due to mass action conversion of heavy metal soaps to alkali metal soaps. Recent development of cresylic acid types of degreasing compounds tends to minimize the importance of this use. The use of silicates for this purpose is believed to deposit a siliceous film which lessens the extent to which dirt will stick to stone, brick, tile, concrete, etc., in subsequent soiling.

There are many unclassifiable uses of these silicates. Some are used in de-inking of paper. Sodium orthosilicate with caustic soda helps to bleach rags for rag paper, probably by detergent effect. Paper makers felts are cleaned with sodium metasilicate-soap mixtures leaving a soft felt ready for reuse, competing in this with tetrasodium pyrophosphate and sodium hexametaphosphate. Some is used in the bowls by wool washers. Enamel is stripped from suitable base metals without etching. In bleaching of sulfite pulp with calcium hypochlorite sodium metasilicate results in an improved color. It is less effective with sulfate pulp and has little effect on soda pulp[9].

It is obvious from inspection of the pH values that solutions of these materials are not suitable for contact with the hands. For that reason no substantial amount goes into products distributed directly to the consumer.

Surface saponification of cellulose acetate fiber with sodium sesquisilicate permits varied cross dyeing effects. Addition of silicate with the alkali in bleaching vegetable oils has been found advantageous. In reclaiming of crank case oils there are varied processes, in some of which aqueous solutions of alkaline silicates are applied. In these it may be visualized as having the function of wetting suspended particles and therefore transferring them from the oil layer to the water layer. Similarly it has been used in place of caustic soda in reclaiming of dry-cleaners solvent.

It has even been reported that if fish are washed with it, they have a better odor—the ultimate in detergency.

Acknowledgement: The assistance of Chester A. Snell in obtaining preliminary data from the literature is gratefully acknowledged. Data from numerous issues of Silicate P's and Q's, the house organ of the Philadelphia Quartz Co. have been used without specific acknowledgement of the individual items.

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The co-solubility of calcium carbonate and magnesium hydroxide is 20 p.p.m. as calcium carbonate at 25°C. The presence of nonincrustant salts increases the solubility. Excess of hydroxyl or carbonate ion decreases the solubility. The known beneficial effect of sodium aluminate is shown to be due to the excess hydroxyl ion formed on hydrolysis and the coagulating power of hydrous alumina. A basis is given for determining the relative limits of softening with excess treatment by the lime-soda method. The solubility data indicate that at 25°C. 7-20 p.p.m. excess may be added before the total mineral content is increased. T. E. Larson. *Ind. Eng. Chem.* **32,** 1240-1 (1940).

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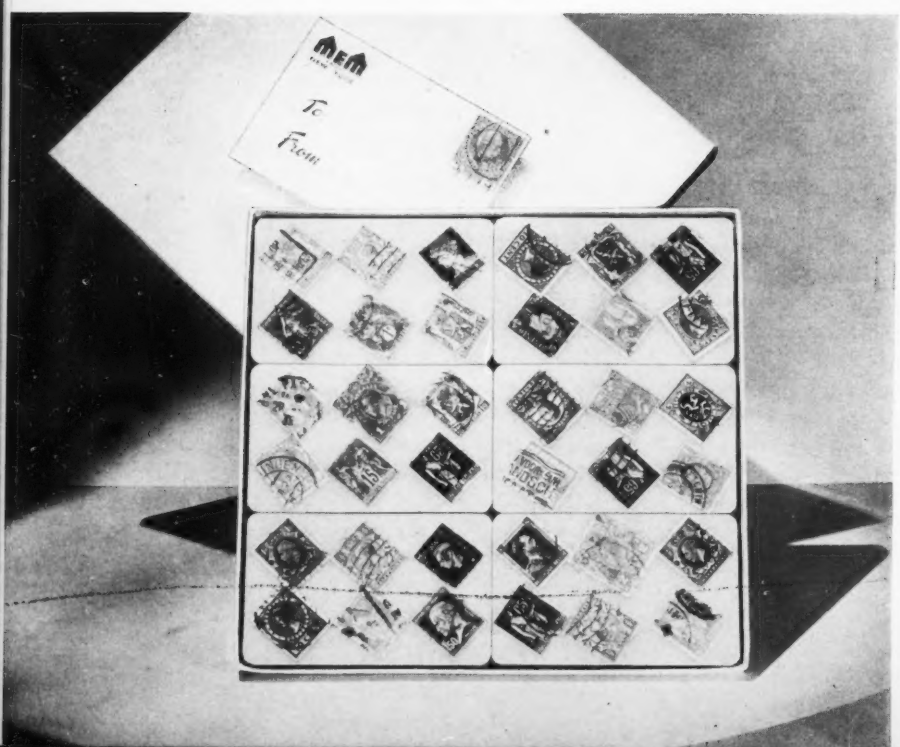
By modifying the formula normally used for the calculation of the mean molecular weight of the fatty acids in a fixed oil or fat, to allow for the presence of free acidity and unsaponifiable matter, the results are correct to within 0.1 per cent for all concentrations of free fatty acids and unsaponifiable matter. Frank Hawks. *J. S. African Chem. Inst.* **23,** 21-4 (1940); through Chem. Abs.

New Products and

Marrow's Inc. of Chicago, makers of "Mar-O-Oil", have just announced a new companion product described as a super foamy shampoo. The containers by Owens-Illinois Glass are designed for ready gripping by soapy hands.

Timed to share in the 1940 holiday gift season is the new "Friendship's Garden" line of Shulton, Inc., New York. The guest size is packaged, six cakes to the box. A companion package features three bath tablets.



An outstanding treatment for a novelty soap for juvenile consumption is the "Stamp Soap" package just announced by Mem, Inc., N. Y. The stamps wash off for user's stamp collection.

Packages

Out of a host of interesting new soap novelties, just announced by Lightfoot-Schultz, Inc., for the 1940 gift market, we select this "back scratcher", for bath and shower use.

Maria Danica, Inc., New York, include several soap packages in a new line of complexion specialties recently introduced to the department store trade. Soap cakes are designed to encircle a jar of complexion cream,—feature of the line.

Janitors Supply House Inc., Baltimore, have recently repackaged their entire line in lithographed cans. The design is by W. K. Tracey and the can manufacturer is Crown Can Co.

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SALT
SAL SODA
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SODA ASH
TRISODIUM PHOSPHATE

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CORN OIL
COTTONSEED OIL
LARD OIL
NEATSFOOT OIL
OLEIC ACID - RED OIL
OLIVE OIL
OLIVE OIL FOOTS
PALM OIL
PALM KERNEL OIL
PEANUT OIL
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News....

New Foame Toy Soap Branch

Foame Toy Soap Co., of Valparaiso, Ind., plans the establishment of a branch factory in Hebron, Ind., on the former site of Fashion Wise, Inc., now in receivership. The site was recently decided upon by Albert Serewicz, Jr., owner-manager of the soap company. Operations are scheduled to begin as soon as machinery has been removed from the building.

Soap Plant Owner Dies

Joseph Dietrich, 86, founder of J. Dietrich & Co., San Antonio, Texas, soap manufacturers, died recently at his home after a long illness. Mr. Dietrich had been in the soap business for almost seventy years. He was born in Alsace-Lorraine of French parentage. At the age of seventeen he came to the United States, settling in San Antonio, where he found employment with the La Chapelle family who were then soap manufacturers. He remained with this family until he was twenty-six years old, at which time he became an independent soap manufacturer and located his factory at its present site. The passing of Mr. Joseph Dietrich will not affect the status of the company as his son, Arthur G. Dietrich, who has been in full charge of the business for the past two years, will carry on.

Fels & Co. Expand Plant

Fels & Co., Philadelphia, plan to expand their plant capacity and have let contracts for building and equipment to cost approximately $100,000. The construction of a new tank house will be the largest item in the proposed expansion.

R. W. Peet New C-P-P Assistant

Roy W. Peet, former advertising director of Colgate-Palmolive-Peet Co., Jersey City, was recently named to the post of assistant to E. H. Little, president and to James S. Adams, vice-president. Mr. Peet has been with the company since 1918, was made advertising manager in

Roy W. Peet

1936 and advertising director early this year. He has been succeeded as advertising director by Hugh McKay, for ten years copy chief of Lord & Thomas, New York advertising agency.

British Urge "Buy Less Soap"

"Buy Less Soap" urges a British advertisement for Palmolive soap which points out that "olive oil has now other war work to do in addition to safeguarding your schoolgirl complexion." The advertisement offers a number of practical suggestions for conserving soap.

McDonough on Xavier Faculty

James A. McDonough, sales manager for Emery Industries, Cincinnati, is the newly appointed instructor in "Specialized Salesmanship" at the Xavier University (Cincinnati) evening division. A Xavier alumnus, he has arranged for sales managers of leading industries to give lectures on specialized selling, sales management and promotion.

Brundage Heads New Firm

E. F. Brundage, who recently resigned as a sales executive with Michigan Alkali Co., Wyandotte, Mich., is now president of Finger Lakes Chemical Co., just formed in Ithaca, N. Y., with a plant in Etna, N. Y. Vice-president of the company is C. S. Benjamin, formerly associated with Lotte Chemical Co., Paterson, N. J. The new company will make cleaners for use in the dairy, laundry, bottle-washing and other industries as well as several chemical specialties.

Archibald Campbell Dies

Archibald Campbell, former vice-president of the old Globe Soap Company of Cincinnati, and prominent consulting engineer, died at his home in Cincinnati, early last month at the age of 68, after an illness of six weeks. He was in charge of Globe production for many years prior to the sale of that company to the Procter & Gamble Company. During the last 12 years Mr. Campbell had been active in consulting work in the field of chemical engineering relative to soap manufacture and allied processes. He cooperated with many soap companies throughout the country and conducted successful laboratory experiments in the production of flake and chip soaps.

Mr. Campbell was active in the affairs of the American Chemical Society, American Oil Chemists Association, and American Society of Chemical Engineers. He is survived by a daughter in Cincinnati, two sons in Detroit, also two brothers and a sister.

Fels Names Roberts Agency

Fels & Co., Philadelphia, recently named S. E. Roberts Advertising Agency, in the same city, to direct promotion for "Fels-Naptha" soap and soap chips.

Bims End Golf Season

The final golf tournament of the 1940 season was held by the BIMS of New York at the Ridgewood Country Club, Ridgewood, N. J., on October 8. Close to a hundred golfers played through an all-day rain for twenty-five handsome prizes. The golf tournament was followed by a dinner at which the prizes were presented by Martin F. Schultes of the Hewitt Soap Co., chairman of the BIMS. Peter L. Forsman of C. H. Forsman & Co. was declared the new BIMS champion after turning in an 81 gross. The prize winners were as follows: Karl Voss, Karl Voss Corp.; John H. Curry, Ogilvie Sisters Sales Corp.; Russell Boland, Topics Publishing Co.; Albert C. Burgund, Carr-Lowrey Glass Co.; William F. Zimmerman, Helfrich Labs. of N. Y.; Cecil W. Rice, W. J. Bush and Co.; Alfred Egerter, Plaskon Co.; Ira P. MacNair, MacNair-Dorland Co.; W. L. Davidson, *American Druggist;* R. C. Payton, Yardley and Co., Ltd.; Martin F. Schultes, Hewitt Soap Co.; W. Van Alan Clark, Allied Products, Inc.; Wallace A. Bush, Ungerer and Co.; J. E. Valentine, Oxzyn Sales Co.; Charles M. Macauley, Pro-phy-lac-tic Brush Co.; Clarence E. Clark, Whittaker, Clark & Daniels; Russell H. Young, Davies-Young Soap Co.; Frank A. Nicholson, Richardson-Taylor-Globe Corp.; Peter L. Forsman, C. H. Forsman & Co.; Harry Griffiths, Pennsylvania Drug Co.; Alfred F. Brady, Hazel-Atlas Glass Co.; John Grode; James J. Murphy; R. C. Bennett; C. Hensel.

Venezuelan Studies U. S. Soap

Fritz Vollbrecht, member of a Venezuelan family which is said to control 75 per cent of the coconut oil production in Venezuela, is now in the United States for the purpose of studying American methods of soap manufacturing. Import duties on American soap flakes, according to Mr. Vollbrecht, make the cost excessively high in Venezuela where a large size box sells at about $1. After completing his study of soap chip manufacture in the plant of John Hanser Soap Co., Milwaukee, he intends to return to South America and supervise manufacture of a similar product in his company's soap factories there.

P & G Enter "Ivory" Stipulation

Procter & Gamble Co., Cincinnati, has entered into a stipulation with the Federal Trade Commission to cease advertising that "Ivory Soap" is purer or milder than any competitively sold soaps. According to the charges of the FTC, advertisements published by Procter & Gamble read: "Most castiles cannot equal Ivory's mildness! Tests made on more than 20 castile soaps over a period of years show that many of them vary in purity from year to year—and cannot be compared with Ivory's high standard of unvarying purity." Under its stipulation, the company agrees to desist from representing that any test as to the mildness of "Ivory Soap" shows that it is purer than competitive soaps or that the mildness of a soap is indicative of its purity.

General Soap Avoids Fire Loss

Because the president's secretary happened to be working overtime, General Soap Co., 2215 South Ford St., Chicago, was spared possible serious loss from a recent fire which broke out after the plant had closed for the day. Smelling smoke, the young lady, Miss Adele Lincoln, investigated and discovered the source. She turned in an alarm which brought firemen in time to prevent spread of the flames. General Soap Co. manufactures "Radio Soap Powder," for industrial use.

Sample "Bab-O" by Newspaper

B. T. Babbitt, Inc., New York, distributed 740,000 free samples of their "Bab-O" kitchen cleaner in Chicago, Oct. 10, through the medium of *Downtown Shopping News.* Thin, flat rectangular cartons, containing sufficient powder for a two-day supply, were tabbed to a full page advertisement in the publication. Housewives were also offered two dish towels for 25 cents and one can label.

Empire Soap Co. Moves

Empire Soap & Chemical Co., Minneapolis, has just moved into new quarters at 901-907 S. E. Ninth Street, on Great Northern railroad trackage. The new plant occupies 10,000 square feet. A rotary drier and "Hurricane" pulverizer are part of the equipment recently installed.

Brodie Aids YMCA Drive

R. K. Brodie, vice-president in charge of manufacturing for Procter and Gamble Co., Cincinnati, is acting as membership chairman for the Columbia Parkway Branch of the Cincinnati YMCA.

Borax Co. Ends 50th Year

Pacific Coast Borax Co., Boron, California, celebrated last month the 50th anniversary of the incorporation of the company. At the same time was observed the 10th anniversary of its radio program, "Death Valley Days," said to be the oldest half-hour dramatic program on the air.

To Promote Sales in K. C.

Allan Moss, employee of Swift & Co., for the past twelve years, recently located in the Chicago office, has been transferred to Kansas City, Kansas, where he will take charge of promotion work in the sale of soap products in the vicinity.

"Trade Marks" Supplement

The Toilet Goods Association, New York, has just published Supplement No. 1 to "Trade-Marks for Perfumes, Toilet Preparations and Soaps" the first edition of which was published in 1936. The supplement is intended to bring the first edition up to date and contains over 3,000 new trade-marks which have been registered or used in this field since 1936. Copies are available through the offices of the association.

Gesell Buys Southport Chem.

R. Gesell, Inc., New York, manufacturers of private formula products for the trade, have purchased the plant of Southport Chemical Co., Garwood, N. J., manufacturers of drug products.

Soap Assn. to Meet Jan. 10

The fourteenth annual meeting of the Association of American Soap & Glycerine Producers will be held Friday, January 10, 1941, in New York. All soapmakers are invited. Note that date on your calendar and plan to be present. Suggestions as to nominations for directors and as to subjects on which discussion is desired are solicited.

Establish Zoned Soap Co.

Zoned Soap Co., newly organized firm of Fort Wayne, Ind., has recently established a new soap plant for the manufacture of soap products of various formulae according to water conditions in the districts where sold. The company is manufacturing granule soap for water of varying degrees of hardness and also dairy cleaners, detergents for machine dish washing, laundry products, mechanic hand soap, industrial laundry soaps, grease solvents, a paint cleaner and bulk soap, each product "zoned" to meet the water conditions for the various zones throughout the United States. Max Finger is director of the technical department. Homer F. Fry is president.

Market Bigger "Dreft" Package

Procter & Gamble Co., Ivorydale, O., have announced a new and bigger package for their "Dreft" soap powder for household use. It is said to contain 25 per cent more than the former carton, but sells for the same price. To promote sale of "Camay" toilet soap in the Chicago district, P. & G. are currently offering a curl comb for one cent with each purchase of three cakes at regular price.

S. & S. Soap Co. Moves

S. & S. Soap Co. has recently moved to new and larger quarters at 324-30 Barretto Street, Bronx, N. Y.

Jergens Appeals Tax Ruling

The Andrew Jergens Company, John H. Woodbury, Inc. and Jergens-Woodbury Sales Corporation, of Cincinnati, have filed notice in United States District Court at Cincinnati that they will appeal to the Circuit Court of Appeals from District Judge John H. Druffel's decision of last July 2 dismissing their suit against Thomas J. Conner, collector of internal revenue, for $364,337.09 which they contend was collected illegally from them in 1936 and 1937 as excise taxes.

Six members of the Ford family were present at the recent 50th anniversary celebration of Michigan Alkali Co. at Wyandotte, Mich. Left to right, they are: Ford Ballantyne, secretary; J. B. Ford Jr., executive vice-president; Emory M. Ford, treasurer; E. L. Ford, president; J. B. Ford Sr., retired president; F. S. Ford.

Michigan Alkali in 50th Year

The fiftieth anniversary of the founding of Michigan Alkali Co., Wyandotte, Mich., was celebrated October 17, with a banquet at the company's club house. A group of 567 employees of the company with service records of a quarter of a century or more were guests of honor and were presented with gold watches by Emory L. Ford, president, and John B. Ford, Jr., vice president, and other officials. Heading the list of veteran Michigan Alkali workers was John A. Woolcott, master mechanic in the company's plant, who joined the company in 1891, a year after it was founded by Capt. John B. Ford.

Mendleson New Babbitt Head

Leon Mendleson, former vice-president and treasurer of B. T. Babbitt, Inc., New York, was elected president of the company at a recent director's meeting. He succeeds the late Jerome Mendleson. At the same meeting Alan Mendleson, former assistant treasurer, was elected executive vice-president; Samuel Mendleson, assistant treasurer, was elected vice-president; and Nathan Myers, a director, was elected treasurer.

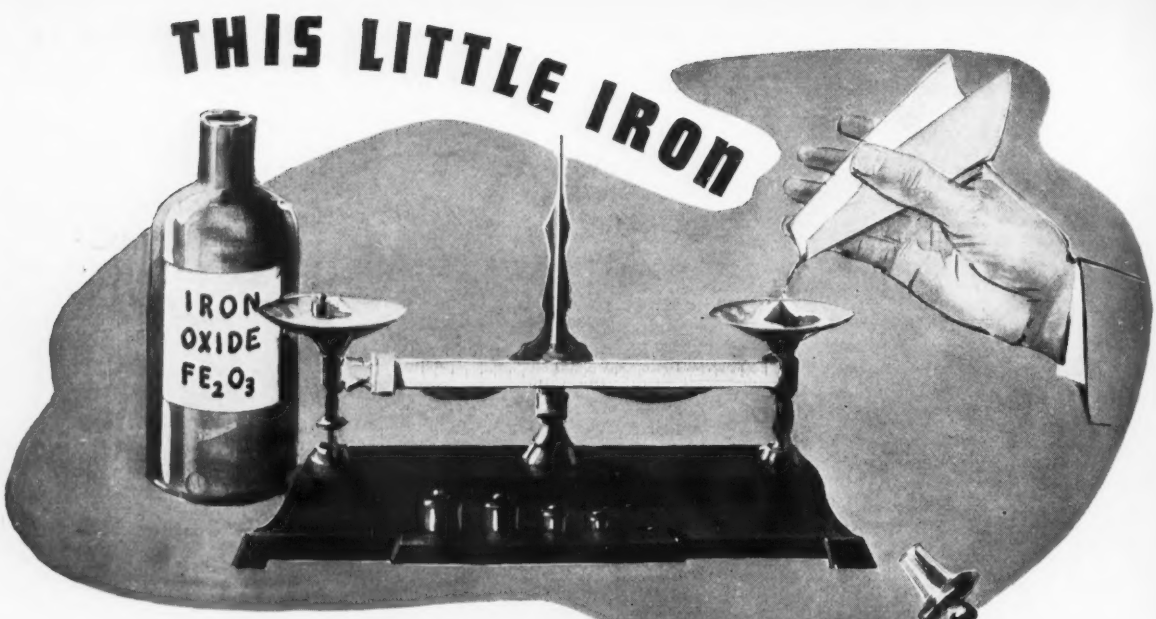
L. A. Soap Sells Dog Food

Los Angeles Soap Co., Los Angeles, is now introducing a new product in California, "Kennel King Dog and Cat Food," packed in cans.

Tells Lever Bros. Story

The story of the rise and growth of the business of Lever Bros. Co., Cambridge, Mass., is told in the November issue of *Fortune* magazine under the title, "Mr. Countway Takes the Job." Mr. Countway, president of Lever Bros., and one of the highest paid executives in the United States, was originator of the famous business-stimulating "B. O." campaign for "Lifebuoy." The article traces the development of advertising for the various Lever products, "Lux", "Rinso", etc., and the increase in earnings of the company since 1913 when Mr. Countway became president.

A new $250,000 addition to the plant of W. C. Ritchie & Co., paper box manufacturers, Chicago, was recently dedicated by R. H. Ritchie, president.



From a Whole Ton of

WARNER CAUSTIC SODA

A druggist's stock of tonic contains about as much iron as a ton of Warner Caustic Soda. This regular production-grade electrolytic caustic soda has its iron content held as low, or lower, than any caustic soda made by any method.

Its salt content also is reduced to a percentage that has no deleterious effect. Despite its clarity and high quality you pay a regular production-grade price . . . get superior results at substantial savings.

Furnished in 50% and 70% concentrations—73% concentration shipped in specially lined tank cars—also in flake and solid. We will welcome your inquiry for consultation, samples and quotations.

OTHER WARNER CHEMICALS

Tetra Sodium Pyrophosphate
Acid Sodium Pyrophosphate
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Chlorine, Liquid
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Barium Carbonate
Perchlorethylene
Carbon Bisulfide
Sodium Sulfide
Bromine
Blanc Fixe
Carbon Tetrachloride
Epsom Salt
Hydrogen Peroxide
Alumina Hydrate, Light
Chemical Grade Magnesia

CHEMICAL **WARNER** COMPANY

DIVISION OF
WESTVACO CHLORINE PRODUCTS CORPORATION

CHRYSLER BUILDING, NEW YORK, N. Y.

Show Soaps, Cleaners at Chicago Laundry, Restaurant Conventions

CONVENTIONS of the American Institute of Laundering and the National Restaurant Association in Chicago last month brought a large number of manufacturers of soaps and cleaning compounds to the city for participation in the concurrent trade shows.

At the laundrymen's meeting in the Palmer House a display of new synthetic textiles attracted attention to the exhibit of the J. B. Ford Sales Co., Wyandotte, Mich. Ford Company representatives explained the concern's research work to develop new soaps and cleaning agents for laundering these new products. C. B. Robinson, general manager, Harry Flack, manager of the laundry department and Paul W. Soderberg, director of technical service, headed the large staff in charge of the demonstrations.

Davies-Young Soap Co., Dayton, O., displayed for the first time a new cleaning product, "Ex-Soil-O," for use on extremely dirty garments, work clothes, wiping rags, towels, etc. Joe Whalen, Chicago sales manager, was in charge of the display. Other products shown included laundry soaps, synthetic dry cleaning soaps and liquid filter soaps.

Cowles Detergent Co., Cleveland, also made a premier trade presentation of a new product, "Escolin," designed for washing linen supply and very heavily soiled white work. F. W. Guernsey, Cleveland, sales manager, and Chas. Pollard, western sales supervisor, were on hand to demonstrate these Cowles products.

"Good Soap Has Helped To Build the Laundry Industry" was the theme of Swift & Co.'s exhibit, which included displays of six products promoted for use in commercial laundries, hospitals, institutions, textile mills and manufacturing plants. C. A. Payne, manager of Swift's Chicago soap department, was in charge.

Armour Soap Works, Chicago, featured chip soap for the laundry, benzine soap for dry cleaning and cake soap for towel supply service. T. M. Galvin, sales manager and P. A. Winser, chemical engineer, were on duty.

"Arctic Syntex M" was a new product featured by Colgate-Palmolive-Peet Co., with R. W. Boedeker, C. C. Moore and W. S. McConlogue, directing demonstrations. This new soapless detergent was recommended to overcome spotting, off colors, etc., in washing fine silks, woolens and colored materials, in power laundries, textile mills, rug and cleaning plants, cleaning and dyeing shops, hotels and institutions.

H. Kohnstamm & Co., New York, featured their line of dry cleaning soaps, sours, solvents and other cleaning products and their research program for education of laundrymen to the fact that "The customer is *not* always right." Ed Mayer, Chicago manager, was assisted by Phil Deegan, chemist, George Klein, Minneapolis, and other field men.

Procter & Gamble Co. sent T. J. Wrecklage, manager of the chip soap department, and J. B. Crow, director of laundry research at Cincinnati to work at the show with J. S. Grant, central division supervisor, Chicago, H. H. Besuden, Chicago advertising and merchandising manager, and ten field men. Products displayed were limited in number and promotional work concentrated on research, advertising and service programs.

Mathieson Alkali Works, Inc., New York, promoted "H T H," a bleaching product recommended for "prolonging the life of linens," and "Chromotex" detergent for rug cleaning. A. E. Wennerstrom, sales manager, had charge.

Pennsylvania Salt Mfg. Co., Philadelphia, had ten salesmen in from the field to explain to the laundrymen the qualities of their "Pensol" soap builder, "Erusto" sours, "Perchloron" and various fluid or paste dry cleaning soaps. George Beitzel, general manager, and G. H. Corbin, assistant sales manager, directed the demonstrations of wash room formulas utilizing the various products.

The M. Werk Co., St. Bernard, O., pointed to 108 years of soap making to back the reliability of claims for their new, improved "L T 60," first suds laundry soap. Flake, powder, and bar soaps and red oil soaps, were also displayed.

Adell Chemical Co., Holyoke, Mass., had on display a solvent soap named "Lestoil," for use in hand washing of flannels and other difficult fabrics, including rubberized raincoats. J. L. Barowsky supervised the presentation.

Dow Chemical Co., Midland, Mich., displayed synthetic solvents with Louis Butenschoen in charge.

E. I. du Pont de Nemours & Co., Wilmington, M. C. Cooper, manager, dry cleaning department, exhibited chlorinated hydro-carbon solvents.

Solvay Sales Corp., New York, Arthur Newkirk, sales manager, showing soap builders, including "Superbild," a new phosphate wetting agent.

Restaurant Convention

At the National Restaurant Association's convention in Chicago's Furniture Mart, attractive displays of dishwashing compounds and cleaning preparations were shown by the Dubois Soap Co., Cincinnati, Economics Laboratory, St. Paul, and J. B. Ford Sales Co. The Ford display featured "Keego" cleaner for mechanical dishwashing. Also demonstrated was the "Wyandotte Keego" strength indicator for maintaining dishwashing solutions at proper washing strength. F. W. Rayl, of the Chicago sales and service office, was in charge.

T. V. Dubois, president of the Dubois Co., personally directed promotional work for three cleaning compounds, "Kol," "Temp," and "Neutraloid A C." This last named product, a new all-purpose kitchen cleaner, is especially valuable, it is claimed,

in cleaning aluminum utensils. It is also used for outside cleaning of airplanes. "Kol" for use in the Dubois automatic dispensing device on dishwashing machines, was shown in new "economy control" cartons.

Economics Laboratory, Inc. explained the action of their "Super Soilax" for mechanical dishwashing and "Tetrox" for handwashing of glassware or dishes. Ralph Harlan, Chicago district manager, was assisted by S. G. Lovejoy, E. O. Briel and W. R. Cameron.

French Soap Ration Reduced

The soap ration of 125 grams per person per month is no longer available for distribution to the French public according to a recent announcement of the French Ministry of Industrial Production. The new regulation provides only 100 grams (about four ounces) for each person.

New Los Angeles Co. Product

"Savon Castile," packed in a transparent wrapper and selling retail at 6 cents a cake, is a new product of Los Angeles Soap Co., Los Angeles.

Re-open Spray Soap Case

The application of B. W. Coltman to re-open his suit against Colgate-Palmolive-Peet Co. on the basis of newly discovered evidence has just been granted by the U. S. Circuit Court of Appeals for the Seventh Circuit. In the original action in the District Court for the Southern District of Indiana the Coltman patent on a spray soap was upheld and was declared to be infringed by "Supersuds" and "Palmolive Beads." Upon appeal, the decision was reversed, and a subsequent appeal by Coltman for rehearing was denied. This latest development, based on new evidence presented by Coltman, opens the case once more and sends it back to the District Court where the first decision in his favor originated.

Orford Soap Plant Expands

Orford Soap Co., manufacturer of "Bon Ami," has recently let out contracts for the erection of two additions to their plant at Manchester, Conn. The additions which will be constructed by Bartlett Brainard Co., Hartford, Conn., at a cost of $150,000, are to be completed this year. One addition, to be used as a grinding mill for feldspar, will be located west of the present plant on Electric Street. The other new building is to be erected to the east of the plant fronting on Hilliard Street and will be used for storage of finished products.

Boosts "Knox" Soap Sales

Sales of "Peggy Knox Bath Soap," manufactured for Stineway Drug Co., Chicago, were stepped up noticeably as the result of an article which appeared recently on the Woman's Page of a Chicago evening newspaper. The soap retails at 59 cents a box of three cakes.

Lever Wins Safety Awards

Lever Bros. Co. won three trophies in the National Safety Council's annual accident prevention contests, according to announcements made during the recent National Safety Congress in Chicago. Awards were based on a record of 1,748,178 man-hours worked with no reportable injuries at the Hammond, Ind., plant; a second record of 727,606 no-accident man-hours at Edgewater, N. J., and a third record of 592,625 man-hours with no injuries at Baltimore. Vick Chemical Co., won two awards for records made at Philadelphia and Greensboro, N. C. plants. Among other winners of trophies were Tobacco By-Products Chemical Corp., Louisville, Niacet Chemical Corp., Niagara Falls, N. Y., and Ansul Chemical Co., Marinette, Wis.

Elect Krantz P. I. Director

K. T. Krantz, of Colgate-Palmolive-Peet Co., Jersey City, was elected to the board of directors of the Packaging Institute, Inc., New York, at a recent meeting at the Westchester Country Club, Rye, New York.

Son of C-P-P Director Dies

Dr. Frederick B. Johnson, a grandson of the founder of the old Palmolive Co. and son of W. B. Johnson, a director of Colgate-Palmolive-Peet Co., Jersey City, was killed recently in an automobile accident in New Milford, Conn.

P. & G. Directors Re-elected

Stockholders of the Procter & Gamble Company, Cincinnati, Ohio, held their annual meeting last month, re-electing all directors as follows: Floyd M. Barnes, Renton K. Brodie, George D. Crabbs, Richard R. Deupree, Frank F. Dinsmore, Charles W. Dupuis, Herbert G. French, Cecil H. Gamble, Clarence J. Huff, William Procter, Ralph F. Rogan and John J. Rowe. The directors announced the regular quarterly dividend of 50 cents a share on common stock, payable Nov. 15 to holders of record Oct. 25. This also marked the organization meeting of the board at which all officers were re-elected.

President Deupree reported that the recent information from the war zone indicated none of the company's plants in England had been damaged and that the production and distribution of goods continue there at approximately a normal rate. Domestic operations continue at a good rate, he added. The raw materials used in soap making are plentiful and should remain so, he said.

In relation to the new tax bill, Mr. Deupree indicated that although it was not possible to state definitely the exact effect upon P. & G. earnings, he believed that net earnings, which would be allowed before the excess profits tax was assessed, would be about 95 per cent of the average net earnings of the last four years. He added that the gross earnings up to the average of the four-year period would be subject to a tax of 24 per cent, instead of 15 to 19 per cent, which rates have prevailed during that time. Deupree said he believed that the proposed law gave the company a good basis for net earnings before the excess profits tax law took effect, but it would be very difficult "to earn and have available for dividends as much as we had last year."

Soap Eczema Cause Says A.M.A.

The majority of cases of housewives' eczema are caused by hypersensitivity to ingredients of soaps and allied cleaners, maintain Drs. J. W. Jordan, F. A. Dolce and E. D. Osborne in the *Journal of the American Medical Association* for September 21. Many of the ingredients commonly introduced into commercial brands of soaps and cleaners are known to be eczematizing or allergenic agents, reported the physicians, who recommended the substitution of "a detergent" for the offending agents. Substitutes which proved to be efficacious in reducing the incidence of eczema were said to be alkyl sulfonate compounds. In the opinion of the three investigators, these compounds are not primary irritants in concentrations sufficient for cleaning purposes. Their studies lead the authors to believe that the compounds come closest yet to being ideal substitutes for soaps.

Order Hits Multi-Named Soap

The use of a number of brand names for soap made by the same formula by United Soap Co., Seattle, was recently ordered stopped by the Federal Trade Commission. The FTC found that the company made and sold soap under the various names of "Hot Springs Mineral Soap," "Hawaiian Rose," "Velvette" and similar names and that all the soaps, regardless of name, were made in Seattle and by the same formula. Other findings of the commission were that the terms "medicated" and "vitamized" used on certain of the soaps were misleading; that the price of 75 cents, was wholly fictitious.

To Show Glycerine Exhibit

An exhibit of glycerine and its uses will be shown by the Association of American Soap & Glycerine Producers, Inc., New York, at the National Chemical Exposition to be held at the Stevens Hotel, Chicago, December 11-15.

Gumpert Now on Babbitt Board

L. J. Gumpert, director of sales for B. T. Babbitt, Inc., New York, for the past fifteen years, was recently elected a director of the company. He has been associated with the company for twenty-eight years. In addition to his activities in the company, Mr. Gumpert is also president of the

L. J. Gumpert

Associated Grocery Manufacturers of America, New York, vice-president of Holly Products of California, Vernon, Cal., and secretary of Champ Chemical Co., New York.

P & G Offer "Cool-Water Ivory"

Procter & Gamble Co., Cincinnati, introduced their new "Cool-Water" Ivory Snow in Chicago last month. Described as a brand new soap which is neither flake nor powder, it is claimed that this new product will lather profusely in cool water in three seconds. The danger of colors fading or the lustre of silks and rayons being dulled is thus said to be eliminated. With each purchase of a package, a large size cake of "Ivory" soap was offered for one cent. Earlier in the month the company offered Chicago housewives who purchased "American Family Flake" a three-piece kitchen knife set for fifty cents and one box top.

Chicago Assn. Hears Lecturer

The Chicago Drug and Chemical Association heard Canfield Cook, internationally known traveller, lecturer and war-time air pilot, at their October 31 luncheon. Mr. Cook's talk on "America Flies" was illustrated with colored movies which included a pictorial survey of several important military bases.

FTC Drops Wrisley Case

The Federal Trade Commission has decided not to appeal to the U. S. Supreme Court a decision of the U. S. Circuit Court of Appeals which held the FTC had gone beyond the issues it had raised in issuing a cease and desist order against Allen B. Wrisley Co., Chicago. The order required the company to stop using the word "olive" to describe soap, the fatty content of which was not wholly olive oil unless the company used in immediate conjunction with the word "olive" a statement designating each constituent oil in order of its predominance by volume. The order further required that if any particular oil were not present in the soap in an amount sufficient to affect its detergent or other qualities, the percentage must be shown. The court, however, said these provisos went beyond the issues originally raised by the FTC in the complaint.

A decree handed down by the court subsequent to its decision substitutes a new order for that originally issued by the FTC. This prohibits the use of the word "olive" in any brand names or the letters "oliv" on soap the oil content of which is not wholly olive oil. The order specifically permits, however, use of the names "Palm and Olive Oil Soap," "Palm and Olive Soap," and "Olive-Palm Complexion Soap."

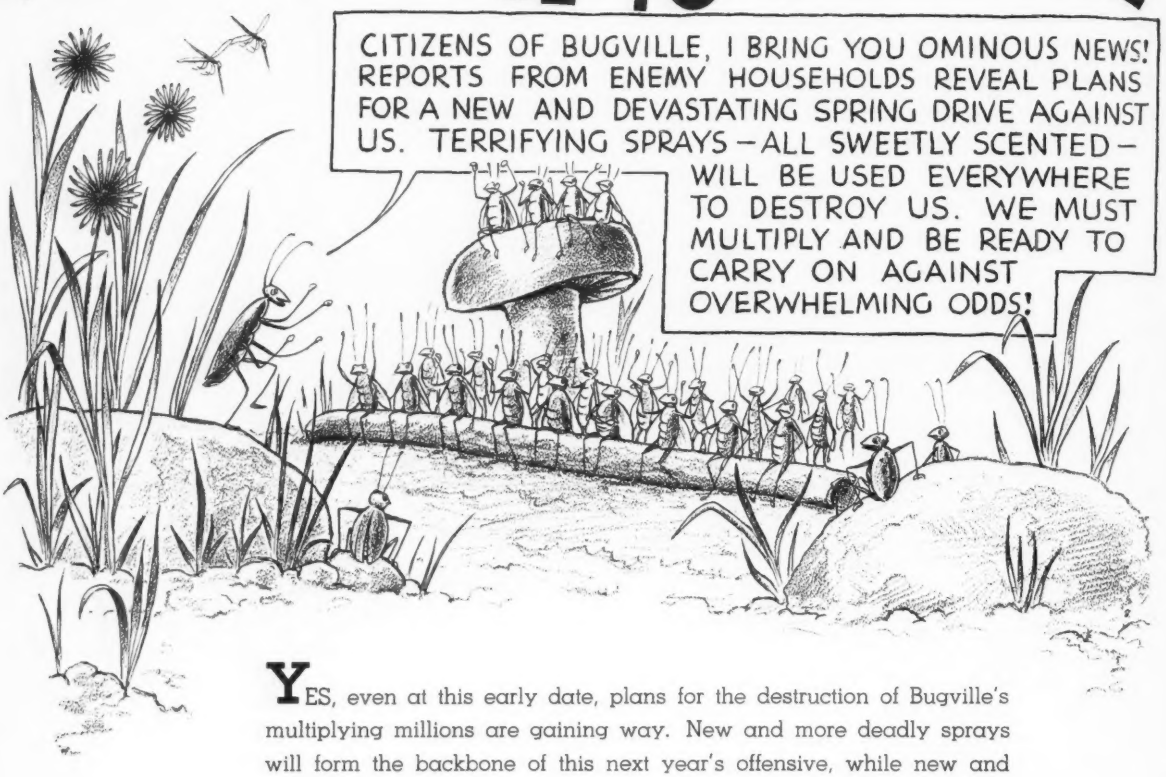
Trucks Now Under Federal Act

New regulations applying to trucks engaged in carrying goods that move in interstate commerce became effective on October 15, under the Motor Carrier Act. These apply if the goods cross state lines even though the truck and its driver may not. Questions on the new ruling will be answered on request by the Association of American Soap and Glycerine Producers, Inc., New York.

Distributes Soap Coupons

Los Angeles Soap Co., Los Angeles, is distributing from door-to-door in inland California cities coupons each of which entitles the bearer to two free bars of giant size "White King" laundry soap with the purchase of three bars of the same size.

NEW MENACE TO BUGVILLE


CITIZENS OF BUGVILLE, I BRING YOU OMINOUS NEWS! REPORTS FROM ENEMY HOUSEHOLDS REVEAL PLANS FOR A NEW AND DEVASTATING SPRING DRIVE AGAINST US. TERRIFYING SPRAYS—ALL SWEETLY SCENTED—WILL BE USED EVERYWHERE TO DESTROY US. WE MUST MULTIPLY AND BE READY TO CARRY ON AGAINST OVERWHELMING ODDS!

YES, even at this early date, plans for the destruction of Bugville's multiplying millions are gaining way. New and more deadly sprays will form the backbone of this next year's offensive, while new and more attractive scents will bring wider distribution and use to these implements of insect destruction. Our Perfume Laboratories are working now on interesting aromatic specialties designed to provide utmost coverage of the spray's repellent scent without impairing in any way its deadly effectiveness. Impartial tests prove that the killing power of a spray, deodorized and scented with the **properly selected Fritzsche Specialty,** is in no way diminished either at the time of incorporation or upon aging. And this, if you do plan a new perfume for your product, is a point you might well consider. A consultation with our Perfume Division, giving some suggestion as to the perfume type preferred, will enable us to work with you in producing a perfume best suited to your likes and necessities. No obligation, of course, if we fail to satisfy you. Address us on your letterhead **today.**

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FRITZSCHE BROTHERS, Inc.

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BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

A FRITZSCHE PRODUCT for EVERY PURPOSE . . .

ESSENTIAL OILS . . . The FRITZSCHE label on your Essential Oil container is an absolute guarantee of purity and complete conformity to the highest standards. These basic materials are the finest that modern methods and experience can produce.

AROMATIC CHEMICALS . . . For finer aromatic effects and greater economy, choose your chemical requirements from this large and superlative selection of materials.

FIXATIVES . . . Timely now are our four Artificial Animal Scents—Musk, Civet, Castoreum and Ambergris, all especially adaptable to soap making. Our complete line includes, also, Rose Crystals —one of the best fixatives for all-around use.

ANTI-OXIDANTS . . . Developed for the preservation of soaps, animal and vegetable fats and oils, these materials are highly important to the soap manufacturer. Write us for details concerning Oxidex.

BATH SALT PERFUMES . . . These materials, combining both perfume and color, greatly facilitate the process of manufacture. Write for circular describing our Bath Perstels and giving complete list of perfume-color blends.

INSECTICIDES AND DISINFECTANTS . . . Some of our most important research achievements have been in this field of investigation. All materials listed in our catalog and recommended for these purposes have behind them guarantees of experience and the indisputable tests of time.

DEODORIZING COMPOUNDS . . . See our advertisement on page opposite. Besides Neutroleum, we recommend Javollal, Methalate "C," Safrella and others. Write for descriptive circulars.

TOILET SOAP COMPOUNDS . . . Many new and important toilet soap perfumes have been added to our already extensive line. These provide exquisite odor quality at very low cost. Ask us for particulars.

LIQUID SOAP AND SHAMPOO PERFUMES . . . Being highly soluble and mixing readily with liquid soaps, these special perfume blends are easy to use and low in cost.

DENTAL AND ORAL FLAVORS . . . These flavoring specialties are skillfully blended to produce pleasant, clean, refreshing taste effects. We are prepared, also, to create flavor blends to meet your own specifications and costs. Please feel free to consult us.

SEND FOR **SAMPLES**

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BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

Levy Resigns as Coty Head

B. E. Levy resigned recently as chairman of Coty, Inc., New York, and president of Coty International Corp., both resignations to take effect January 1, 1941. He will, however, remain as a director of both companies and chairman of an advisory committee. H. L. Brooks, president of Coty, Inc., and formerly vice-chairman of Coty International, was elected president of the latter company. P. Cotnareanu was elected vice-chairman of both companies.

Deupree on Fine Arts Board

Richard R. Deupree, president of Procter and Gamble Co., Cincinnati, has been elected a director of the Cincinnati Institute of Fine Arts, according to an announcement made by the institute's president, Herbert Greer French, executive vice-president of Procter and Gamble Co.

Jergens Calif. Branch Builds

Andrew Jergens Co., 99 South Verdugo Ave., Burbank, Calif., the West Coast branch of the Jergens Co. of Cincinnati, has under construction a two-story addition to its Burbank plant to provide 4,000 square feet of additional manufacturing floor space. Completion is expected by about December 1.

Danco vs. "Danco"

In a recent decision in the Court of Customs and Patent Appeals, Assistant Commissioner Frazer, reversed the decision of Examiner of Interferences and sustained the opposition of Leon A. Danco, Fairfield, Conn., to the application of Chemical Laboratories, Inc., Denver, for registration of the name "Danco" as a trade-mark for toothpaste.

Mrs. C. B. D. Colgate Dies

Mrs. Caroline B. D. Colgate, mother of S. Bayard Colgate, chairman of the board of Colgate-Palmolive-Peet Co., Jersey City, died recently after a brief illness. She was seventy years old and was the widow of Sidney Morse Colgate, one of the five sons of Samuel Colgate.

U.S.I. ALCOHOL NEWS

November ★ A Monthly Review of Technical Developments for Chemists and Executives ☆ 1940

ALCOHOL BOOSTS POLISH QUALITY

Improves Wetting and Detergent Action, Aids Emulsion Stability

Car and furniture polishes of superior quality can be formulated with the aid of alcohol, it is reported. Polishes consist essentially of a mineral oil, alcohol, and water in an emulsion with a water-soluble gum which acts as an emulsifying agent. The alcohol, it is said, increases the wetting and detergent action of the polish and actually improves the stability of the emulsion. In addition, the alcohol wets the water-soluble gum, increasing its dispersibility. It also acts as a gum preservative to prevent fermentation, which would make the polish useless and cause bulging of metal containers or breakage of glass. A still further advantage of alcohol is that it prevents freezing during storage and transportation. It is said that these advantages can be obtained with as little as 15% solution of alcohol, based on the water content. Solox, U.S.I.'s proprietary alcohol-type solvent, is frequently used in polishes of this type.

Manufacturers of automobile and furniture polishes find many advantages in the use of alcohol. Features of polishes containing alcohol include prevention of freezing or of gum fermentation.

ALCOHOL FINDS COUNTLESS USES IN PHARMACEUTICALS

External pharmaceuticals offer plenty of applications for alcohol, of which tincture of iodine is but a single instance. U.S.I. produces S.D. Alcohol in two formulas authorized for use in this popular antiseptic. 19 formulas of S.D. Alcohol are authorized for use in external pharmaceuticals not U.S.P. or N.F. The rigid care exercised by U.S.I. in the production of alcohol and the testing of denaturants give assurance of the quality needed for the manufacture of external pharmaceuticals.

TECHNICAL DEVELOPMENTS

For further information write U.S.I.

An aromatic chemical now being produced in this country is said to be an almost exact counterpart of jasmone, and to have a more powerful and tenacious odor than the natural product. **(No. 390a)**

A cosmetic container recently patented is said to be designed to hold both perfume and lipstick. It is reported to consist of a perfume flacon with a cap adapted to hold the lipstick. **(No. 391a)**

A synthetic civet powder has 8 times the strength of the natural product, according to the maker. ½ ounce per gallon of alcohol gives a product equivalent in strength to the standard civet tincture, it is said. **(No. 392a)**

Vitamin D is now being manufactured commercially under license at extremely low cost, it is reported. It is said that the product is being used in breakfast cereals. **(No. 393a)**

A printing unit is especially adapted to imprinting code numbers or symbols on labels for the drug, cosmetic, and food industries, according to the maker. **(No. 394a)**

A new concentrate is capable of producing an absorption base with 33 per cent greater water absorption than the usual types, is compatible with both acids and alkalies, it is claimed. **(No. 395a)**

A mint perfume oil is said to be especially suitable for use in men's toilet preparations, such as shaving creams, powders, and after-shave lotions. **(No. 396a)**

A floral oil is said to suggest the odor of spring flowers, such as lilac, lily, and magnolia, and to be adapted for use in perfume extracts, toilet waters, powders, and creams. **(No. 397a)**

An all-purpose cleaner is said to dissolve grease and film and remove dirt from metal, tile, porcelain, painted surfaces, or varnished floors. Maker says that synthetic solvents employed act as antiseptic and deodorant. **(No. 398a)**

U.S.I. ALCOHOL QUALITY AIDS DEODORANT EFFECTIVENESS

Sales appeal of deodorant liquids and creams is boosted by the use of U.S.I. Alcohol. Alcohol in deodorant formulation is useful in increasing evaporation rate and as a solvent for the perfume. 10 formulas of S.D. Alcohol are authorized for use in deodorants.

CHART GIVES DATA ON ALCOHOL-WATER MIXTURES

A convenient chart lists boiling points, dew points, and freezing points of alcohol-water mixtures. For copies of this chart write U.S.I. Ask for Bulletin BP.

U.S.I. INDUSTRIAL CHEMICALS, INC.

60 EAST 42ND ST., NEW YORK (USI) BRANCHES IN ALL PRINCIPAL CITIES

INDUSTRIAL ALCOHOL IN ALL GRADES AND ALL FORMULAS

Contracts Awarded

Soap Awards

The following awards were made by the Army Quartermaster Corps, in recent openings at Brooklyn, N. Y.: to R. M. Hollingshead Corp., Camden, N. J., 25,000 lbs. saddle soap at 9.7 cents; to Kranich Soap Co., Brooklyn, 15,000 lbs. castile soap at 20 cents, 8,000 lbs. castile soap at 21 cents and 600 lbs. castile soap at 22 cents; to Kirkman & Son, Brooklyn, 1,000,000 lbs. laundry soap at 2.74 cents; to S. & S. Soap Corp., Brooklyn, 50,000 cakes grit soap at 2.76 cents; to Day & Frick, Philadelphia, 150,000 cakes grit soap at 2.85 cents.

—— ♦ ——

Soap Awards

Gillam Soap Works, Fort Worth, Texas, was awarded the following contracts at recent openings: 34,000 lbs. laundry soap, powdered, for delivery to Fort Sill, Okla.; 60,000 lbs. laundry soap, bar, for delivery to Fort Sam Houston, Texas.

—— ♦ ——

Hand Cleaner Award

Sugar Beet Products Co., Philadelphia, was awarded the contract on 10,000 lbs. hand cleaner at 16.55 cents in a recent opening by the Army Ordnance Department, Frankford Arsenal, Pa.

—— ♦ ——

Laundry Soap Bid

Procter & Gamble Distributing Co., Baltimore, entered the low bid on 150,000 lbs. laundry soap at 2.79 cents in a recent opening by the Treasury Department, procurement division, Washington, D. C.

—— ♦ ——

Toilet Soap Bid

Allan B. Wrisley Distributing Co., Chicago, bid low on 12,150 lbs. toilet soap at 7 cents in a recent opening by the Treasury Department, procurement division, Washington, D. C.

—— ♦ ——

Scouring Compound Bid

Stevens Soap Corp., Brooklyn, N. Y., submitted the low bid of 1.3 cents a pound on 15,000 lbs. scouring compound powder in a recent opening by the Treasury Department, procurement division, Washington, D. C.

—— ♦ ——

Naphthalene Award

Reilly Tar & Chemical Corp., Newark, N. J., was awarded the contract on 19,200 lbs. flake naphthalene at 6.24 cents in a recent opening by the Army Air Corps Supply division, Wright Field, Ohio.

—— ♦ ——

Metal Polish Bid

Belvidere Labs., Belvidere, Ill., was low bidder on 5,004 lbs. metal polish at 6.5 cents in a recent opening by the Post Office Department, Washington, D. C.

—— ♦ ——

Cresol Bid

James Good, Philadelphia, bid low on 1,000 gallons cresol compound solution at 68.9 cents in a recent opening by the Treasury Department, procurement division, Washington, D. C.

—— ♦ ——

Harris Soap Gets Govt. Order

The U. S. War Department has recently ordered from Harris Soap Company, Buffalo, a quantity of a special spray booth coating for use in arsenals and ordnance depots. Applied to the metal walls of paint spray booths, where airplane parts are spray-painted, the coating enables the removal of accumulated waste paint on the walls in large sheets.

—— ♦ ——

Naphthalene Award

Harshaw Chemical Co., Philadelphia, was awarded the contract on 25,000 pounds flake naphthalene at 5,97 cents in a recent opening by the Army Quartermaster, Philadelphia.

—— ♦ ——

Soap Awards

In a recent opening by the Army Quartermaster, Chicago, the following contracts were awarded: M. H. Fairchild & Bro., Chicago, 20,000 cakes grit soap at 2.3 cents, and 16,000 cakes grit soap at 1.82 cents; Iowa Soap Co., Burlington, Iowa, 180,000 cakes laundry soap at 2.73 cents, and 8,000 cakes toilet soap at 0.77 cents; Selmar Soap Co., Memphis, 228,000 cakes laundry soap at 2.73 cents; Colgate - Palmolive - Peet Co., Jersey City, 327,000 cakes laundry soap at 2.7316 cents.

—— ♦ ——

Polish and Soap Awards

In a recent opening by the Army Quartermaster, Ft. Sam Houston, Texas, the following contracts were awarded: Eagle Soap Co., Brooklyn, 2,600 cakes grit soap at 2.34 cents; Selmar Soap Co., Memphis, 20,760 pounds laundry soap at 3.09 cents; Imperial Products Co., Philadelphia, 1,000 pints metal polish at 7.2 cents; Armour & Co., San Antonio, Texas, 18,500 cakes toilet soap at 2.55 cents.

—— ♦ ——

Soap Awards

In a recent opening by the Army Air Corps, Wright Field, Ohio, the following contracts were awarded: Unity Sanitary Supply, New York, 8,300 cans powder at 8.5 cents, f.o.b. dest.; Colgate - Palmolive - Peet Co., Jersey City, 9,200 packages soap at 7.6 cents, f.o.b. plant; Armour & Co., Chicago, 36,000 cakes soap at 2.4 and 2.5 cents; Sanitary Floor Compound Co., Paterson, N. J., 3,200 gallons of soap at 27 cents, f.o.b. plant.

—— ♦ ——

Furniture Polish Bid

Waxaid Co., Baltimore, submitted the low bid of 11.98 cents on 7,200 quarts furniture polish in a recent opening by the procurement division, Treasury Department, Washington, D. C.

—— ♦ ——

Floor Wax Bid

Waxaid Co., Baltimore, entered the low bid of 41.3 cents on 11,000 gallons liquid floor wax in a recent opening by the Post Office Department, Washington, D. C.

—— ♦ ——

Pioneer Soap Co., San Francisco, was awarded the contract on trisodium phosphate at 4.1 cents a pound in a recent opening by the Army Quartermaster, Ft. Mason, Cal.

MY WASH WAS NEVER SO WHITE BEFORE
UMM! CLOTHES DRY SO SWEET SMELLING
SUCH MARVELOUS SUDS.. ...FROM LESS SOAP TOO!
LOOK HOW SOFT IT LEAVES MY HANDS

COULD IT BE YOUR SOAP THEY'RE PRAISING?

TETRASODIUM PYROPHOSPHATE helps sell soap! Extensive consumer tests and surveys conducted by leading soap manufacturers reveal a definite preference on the part of Mrs. American Housewife for soap containing TSPP.

That's not very difficult to understand when you consider what Victor TSPP will do! More suds from less soap, for example. A 20% to 30% saving in soap because of powerful water-softening action. Clothes that rinse cleaner, whiter because of unique "peptizing" action (suspends dirt particles throughout the washing solution . . . prevents them from becoming enmeshed in the fabric).

Today the leading three popular brands of powdered soap all contain TSPP. What about yours? There's news in soap today. Why not make the most of it, while "the whole town's still talking"?

Send for Research Bulletin
"The Function of Tetrasodium Pyrophosphate in Soap Mixtures"

VICTOR CHEMICAL WORKS
141 W. JACKSON BLVD. CHICAGO, ILL.

TETRASODIUM PYROPHOSPHATE..BY..

VICTOR

HEADQUARTERS FOR... pHosphates

New Trade Marks

The following trade-marks were published in the October issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

DOOM—This in solid letters describing general cleaner. Filed by Edgar A. Murray Co., Detroit, March 26, 1940. Claims use since 1932.

FABRITE—This in solid letters superimposed on circle describing upholstery cleaning preparation. Filed by John P. Cadden, Fabrite Products Co., Baltimore, June 6, 1940. Claims use since, May, 1937.

NYLEX—This in solid letters describing soap. Filed by Fred P. Robin, Philadelphia, July 5, 1940. Claims use since Feb. 1, 1939.

SWANK—This in script letters describing shaving cream. Filed by Royal Mfg. Co., Duquesne, Pa., July 5, 1940. Claims use since March 15, 1940.

ZEAL—This in solid letters within rectangle describing cleaning solution. Filed by Bartlett Chemical, Inc., New Orleans, July 15, 1940. Claims use since Jan., 1940.

TULIPTIME—This in fancy letters describing soap. Filed by Harriet Hubbard Ayer, Inc., New York, July 25, 1940. Claims use since July 22, 1940.

TUBA TOX—This in solid letters describing insecticides. Filed by Miller Chemical & Fertilizing Corp., Baltimore, May 20, 1939. Claims use since April 15, 1939.

WONSHOT—This in solid letters describing auto cleaner. Filed by Glitter Products, Inc., Detroit, June 28, 1940. Claims use since June 8, 1940.

GESCO—This in solid letters describing polish and floor wax. Filed by G. E. Specialty Co., New York, July 9, 1940. Claims use since Jan., 1932.

SOAP-O-LENE—This in solid letters describing abrasive cleaner. Filed by Soap-O-Lene, Inc., Morgantown, W. Va., May 29, 1940. Claims use since Jan. 1, 1937.

NU-LIFE—This in solid letters describing polish and cleaner. Filed by Albert Isserson, Nu-Life Products Co., Cleveland, June 20, 1940. Claims use since June 1, 1940.

SHU-TONE—This in solid letters describing shoe cleaner. Filed by Tri-State Sales Co., Albany, Ga., June 28, 1940. Claims use since December, 1939.

HUR DOL—This in solid letters describing cleaner. Filed by Wm. J. Hurley, Hur-Dol Sales Co., Pottsville, Pa., July 17, 1940. Claims use since Sept., 1937.

MAR-O-OIL—This in solid letters over representation of suds and the words "Super Foamy Type Shampoo" describing oil shampoo. Filed by Marrow's Inc., Chicago, March 21, 1940. Claims use since March 1, 1940.

NNO—This in solid letters describing parasiticides. Filed by Atlas Powder Co., Wilmington, Del., Aug. 14, 1940. Claims use since June 12, 1940.

CROP-GAIN—This in solid letters describing insecticides. Filed by Tovrea Packing Co., Phoenix, Ariz., Aug. 23, 1940. Claims use since July 19, 1940.

ANNABELLE—This in script letters describing soap and shampoo. Filed by Superior Soap Corp., Brooklyn, N. Y., Aug. 10, 1940. Claims use since Oct., 1937.

HILTS—This in script letters over design and the words "Laboratories Limited" describing insecticides, disinfectants and alkalies. Filed by Hilts Laboratories, Ltd., Honolulu, T. H., April 19, 1940. Claims use since Feb., 1935.

ROMEO & JULIET—This in solid letters describing shampoo. Filed by Paul Pierro & Co., New York, Aug. 27, 1940. Claims use since Dec., 1939.

LUCKY HEART—This in reverse letters on colored heart describing soaps. Filed by Lucky Heart Co., Memphis, April 24, 1939. Claims use since Nov. 10, 1935.

OLD SOUTH—This in fancy letters describing toilet soap. Filed by Campana Corp., Batavia, Ill., Aug. 8, 1940. Claims use since July 23, 1940.

MONO SHAM—This in solid letters above the words "Tube Verté" describing liquid shampoo. Filed by Victor de Journo, Allentown, Pa., May 4, 1940. Claims use since Oct. 15, 1939.

FORT-A-CIDE—This in reverse letters on solid background describing disinfectant. Filed by Fort-A-Cide Sales Co., Chicago, Aug. 3, 1940. Claims use since June 3, 1940.

SULFAST—This in solid letters describing insecticides. Filed by General Chemical Co., New York, Sept. 7, 1940. Claims use since July 23, 1940.

RESTORO—This in solid letters within oval describing cleaning compound. Filed by C. S. Santmyer, North Side, Pittsburgh, May 14, 1940. Claims use since March 5, 1934.

TAPESTRY—This in solid letters describing toilet soap. Filed by Mary Chess, Inc., New York, June 14, 1940. Claims use since June 1, 1934.

"DYGEX"—This in solid letters describing cleaning compound. Filed by Davies-Young Soap Co., Dayton, July 10, 1940. Claims use since July 15, 1940.

HIS—This in solid letters describing shaving soap. Filed by The House for Men, Inc., Chicago, July 15, 1940. Claims use since Feb. 20, 1939.

E-Z-CLEAN—This in reverse letters on diamond-shaped background under the words "Great Seal" describing cleaning compound. Filed by Styron-Beggs Co., Newark, Ohio, Aug. 9, 1940. Claims use since March, 1940.

1840—This in solid letters describing soaps. Filed by J. B. Wil-

Fostered by Fertile Ground

Fertile ground is highly prized by gardeners for the fine crops it produces. And manufacturers value good basic materials for the fine products they help to produce. Many manufacturers have improved the value of their products by using Niagara Carbonate of Potash, Caustic Potash and Caustic Soda. Why not let *your* product be fostered by the "fertile ground" of Niagara materials. They're recognized as the standard in quality and uniformity.

Niagara ALKALI COMPANY

60 EAST 42nd STREET, NEW YORK, N. Y.

Affiliated with Electro Bleaching Gas Company, Pioneer Manufacturer of Liquid Chlorine

PARA
CAUSTIC SODA
CARBONATE OF POTASH
CAUSTIC POTASH

liams Co., Glastonbury, Conn., Aug. 17, 1940. Claims use since July 9, 1940.

PARAMI—This in script letters describing toilet soap. Filed by Colgate-Palmolive-Peet Co., Jersey City, N. J., Aug. 21, 1940. Claims use since July 2, 1940.

KIRKMAN—This in solid letters describing soaps. Filed by Kirkman & Sons, Inc., Brooklyn, N. Y., Aug. 21, 1940. Claims use since 1837.

SAN-O-LA—This in fancy letters describing disinfectant. Filed by Rochester Germicide Co., Rochester, N. Y., Aug. 15, 1940. Claims use since 1904.

ANGEL-DREAMS—This in script letters under drawing of lady washing her hair describing shampoo. Filed by Ernest W. Morgan, Chicago, Aug. 24, 1940. Claims use since Sept. 15, 1939.

MARY GREENE—This in the form of a signature describing shampoo. Filed by Mary Greene, New York, Aug. 31, 1940. Claims use since June, 1928.

VALONE—This in solid letters describing insecticides. Filed by U. S. Industrial Chemicals, Inc., New York, Sept. 11, 1940. Claims use since Sept. 28, 1939.

VRAY—This in script letters describing dentifrices. Filed by Weco Products Co., Chicago, Sept. 13, 1940. Claims use since Aug. 31, 1940.

SULFRAMIN—This in solid letters describing detergent. Filed by Ultra Chemical Works, Inc., Paterson, N. J., Sept. 14, 1940.

SPIX—This in solid letters describing insecticides. Filed by C. B. Dolge Co., Westport, Conn., Sept. 17, 1940. Claims use since April, 1935.

Trade Marks Granted

381,098. Antibacterial preparations. E. R. Squibb & Sons, New York. Filed May 1, 1940. Serial No. 431,471. Published July 2, 1940. Class 6.

381,120. Disinfectant. Lehn & Fink Products Corp., Bloomfield, N. J. Filed May 11, 1940. Serial No. 431,812. Published June 18, 1940. Class 6.

381,124. Shampoo. Blanche Moore, San Francisco. Filed May 10, 1940. Serial No. 431,837. Published July 2, 1940. Class 6.

381,126. Antiseptic. Edward F. Hutt, Hutt Products Co., Lone Jack, Mo. Filed May 13, 1940. Serial No. 431,863. Published July 2, 1940. Class 6.

381,137. Parasiticides. California Spray-Chemical Corp., Richmond, Cal. Filed May 15, 1940. Serial No. 431,944. Published July 2, 1940. Class 6.

381,175. Carpet cleaner. Cardinal Laboratories, Inc., Chicago. Filed June 11, 1938. Serial No. 407,356. Published July 2, 1940. Class 4.

381,218. Shoe polish. Hecker Products Corp., New York. Filed Jan. 22, 1940. Serial No. 427,708. Published July 2, 1940. Class 4.

381,226. Soap. Colgate-Palmolive-Peet Co., Jersey City. Filed Feb. 17, 1940. Serial No. 428,642. Published Apr. 30, 1940. Class 4.

381,227. Soap. Colgate-Palmolive-Peet Co., Jersey City. Filed Feb. 17, 1940. Serial No. 428,643. Published Apr. 30, 1940. Class 4.

381,229. Cleaning compound. Turco Products, Inc., Los Angeles. Filed Mar. 2, 1940. Serial No. 429,143. Published July 9, 1940. Class 4.

381,230. Detergent. Turco Products, Inc., Los Angeles. Filed Mar. 2, 1940. Serial No. 429,146. Published July 9, 1940. Class 4.

381,289. Soaps. Los Angeles Soap Co., Los Angeles. Filed Apr. 18, 1940. Serial No. 430,919. Published July 2, 1940.

DCAT Meets at Skytop

The Drug, Chemical and Allied Trades Section of the New York Board of Trade met at the Skytop Club, Skytop, Pa., October 17-19, for its fifth annual Fall meeting. In attendance were more than 150 executives and their wives all enjoying the varied program which was about equally divided between business and entertainment features. Speakers at the business session were: Major Clifford B. Morgan, chemical section of the commodities division, Army and Navy Munitions Board, who spoke on "Chemical Needs and National Defense"; Simon G. Hanson, chief economist of the Committee to Coordinate Commercial and Cultural Relations Between the American Republics, whose speech was entitled "The United States Looks Southward"; and Robert A. Smith, correspondent of the *New York Times*, who spoke on "The United States Trade and Asiatic Policy."

Colgate Splits Ad Account

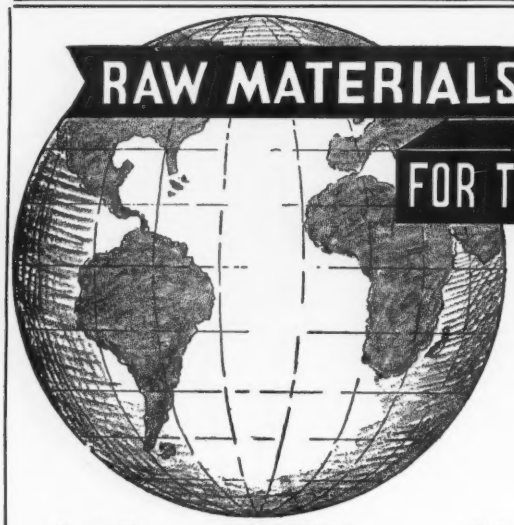
Colgate - Palmolive - Peet Co., Jersey City, will move its advertising account from Benton & Bowles, Inc., New York, at the close of the year and divide it among three agencies, it was announced recently by Roy Peet. The three agencies are: a new one to be established by Theodore L. Bates, vice-president of Benton & Bowles, Inc.; Sherman & Marquette, Inc., which handles some of the Colgate business at present; and a third agency yet to be appointed. Last year Colgate is reported to have spent more than $6,200,000 in newspaper, magazine and radio advertising.

Tracey Co. Answers Complaint

John J. Tracey Co., Chicago, in an answer to a complaint by the FTC admitted having sold and distributed American-made soap under various trade names such as "English Lilac," "English Honeysuckle," and other names including the word "English," but denies that the use of such names constitutes a representation that the soap was made in England. The answer also admits the use of the brand name "Cold Cream Soap" but denies that such soap does not contain sufficient cold cream to possess added detergent and emollient properties by reason of its inclusion. Hearings will be held.

New Columbia Sales Branch

W. I. Galliher, director of sales of Columbia Alkali Corp., a division of Pittsburgh Plate Glass Co., Pittsburgh, recently announced the establishment of a new chemical sales office in Charlotte, N. C. J. R. Simpson of Durham, N. C., will be in charge.



RAW MATERIALS 1838-1940

FOR THE SOAP INDUSTRY

Oils Fats
Chemicals
Fatty Acids
White Mineral Oils
Petrolatums

FROM ALL PARTS OF THE WORLD

Dry Alkalies for Private Formulas
Mixed for the Trade

Try this Welch, Holme & Clark Service

Castor Oil	Olive Oil Foots	Fatty Acids	Grease	Modified Soda
Cocoanut Oil	Peanut Oil	Lard Oils	Lanolin	Silicate Soda
Corn Oil	Perilla Oil	Neatsfoot Oil	Caustic Soda	Metasilicate
Cottonseed Oil	Rapeseed Oil	Oleo Stearine	Soda Ash	Tri Sodium Phosphate
Palm Oil	Sesame Oil	Stearic Acid	Caustic Potash	Di Sodium Phosphate
Palm Kernel Oil	Soya Bean Oil	White Olein	Carbonate Potash	Chlorphyll
Olive Oil	Teaseed Oil	Tallow	Sal Soda	Superfatting Agent

WELCH, HOLME & CLARK CO., Inc.

563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

"D & O"

a dependable source of supply

The resources of the "D & O" organization have enabled us to take care of the requirements of our customers to an exceptional degree in these troubled times. Our factory and laboratories are well equipped to work with you. We invite your inquiries on any service we may be able to perform. We still have stocks available of many of the important raw materials.

DODGE & OLCOTT COMPANY

180 Varick Street New York, N. Y.

BOSTON : CHICAGO : PHILADELPHIA : ST. LOUIS : LOS ANGELES

Plant and Laboratories . . . . Bayonne, N. J.

D&O
ESTABLISHED IN 1798

Raw Material Markets

As of October 25, 1940

NEW YORK—Price trends were again mainly upward this month in the market for soap raw materials, with tallow, grease, oleo stearine, coconut oil, olive foots and certain essential oils being among the materials quoted at higher levels. Most prices of other important oils and fats, including the fatty acids, linseed oil and Sumatra palm oil remained much the same as last month, while lard and cottonseed oil are currently slightly lower. The general underlying tone of business seemed to have become more optimistic although this was not reflected in greatly increased trading. The improvement in outlook seemed to be traceable to an apparent change in the country's political leanings and to the prospects of a definite upward swing in prices resulting from reduced lard and grease production in 1941 together with a stronger domestic demand. Rumors toward the end of the month that Great Britain was in the market for 20,000,000 pounds of lard had little effect on prices in view of the large stocks on hand. The October review of the Fats & Oils Situation by the Bureau of Agricultural Economics brings out that soybean production for 1940 is indicated to be about 7 per cent less than in 1939. However, in spite of the smaller output, domestic crushings of soybeans in the 1940-41 season are expected to be about 5 per cent larger than in 1939-40 mainly because exports to continental Europe, which last year accounted for 13 per cent of the domestic crop, have been virtually eliminated.

Animal Fats

Inedible tallow prices were advanced ½ cent a pound during the period to current prices of 4⅛ cents a pound for special tallow, delivered, and 4¼ cents a pound for extra loose, delivered. It is notable that tallow at these levels begins to approach the price of Sumatra palm oil. Quotations on greases were also advanced ½ cent during October. Lard prices are lower than a month ago. Stocks of lard are higher and it is expected that production will continue to increase for the next two months while the fall hog run is under way.

Vegetable Oils

Coconut oil, tanks, was advanced ⅛ cent to the present level of 2⅞ cents a pound, New York, and 2½ cents a pound, Pacific Coast. Olive oil, denatured, continued to rise in price, being currently quoted at $1.90 to $1.95 a gallon with no change in the outlook. Corn oil and soy bean oil are lower while teaseed oil was advanced 3 cents a pound to a current level of 16 cents, nominal.

Essential Oils

Several increases in essential oil prices were the result of higher shipping rates from the Far East and the Dutch East Indies because of the likelihood of trouble in that region being precipitated by the Japanese. Citronella, for example, was advanced 6 to 7 cents a pound to the present levels of 38 to 40 cents for the Ceylon variety and 36 to 40 cents for Java. Lemongrass was advanced to a range of 75 to 85 cents a pound for native, cans. Other essential oils now higher than a month ago are: anise, oil of cassia, geranium, and spearmint. Quotations on oil of petitgrain and oil of hemlock were reduced slightly.

Insecticide Materials

Prices on most insecticide raw materials remained substantially the same during the period. Red squill, however, increasingly difficult to obtain and large orders are not being filled by most sellers because of scarcity of supplies. The material is being quoted as high at $1.25 a pound by some sellers with every indication for higher prices in the near future.

Describes Coal-Tar Products

Barrett Co., New York, has just brought out a 28-page plastic-bound booklet dealing with a group of new Barrett products, — hydrogenated coal-tar chemicals, including cyclohexane, methylcyclohexane, cyclohexanol, methylcyclohexanol, cyclohexanone, and methylcyclohexanone. The chemical and physical characteristics of each compound are tabulated together with the commercial specifications and principal industrial uses and applications.

Chicago Cotton Oil Market

The Chicago Board of Trade has recently opened a new market for trading in cotton seed oil futures. As the unit of trading 60,000 pounds, equivalent to one tank car, was established and the price basis was set at multiples of 1/100th of one cent a pound. Daily trading limits will be one cent a pound over or under preceding day's close. The deliverable grade will be bleachable prime summer yellow oil.

Detroit Rex Names Supervisors

Detroit Rex Products Co., Detroit, alkali cleaning compounds, recently announced the appointment of two sales and service supervisors in the midwest as follows: W. S. Fernholz, with headquarters at the Chicago office, will supervise sales in Illinois, Wisconsin, Iowa, North Dakota and South Dakota; L. Camel, with headquarters at the Cleveland office, will supervise in Ohio, Kentucky, West Virginia, western Pennsylvania, and western New York.

Correction

Dr. James A. Smith, Philadelphia, and not T. F. Smith, was the originator of "Fawn" soap, a chlorinated soap announced in the September issue of *Soap and Sanitary Chemicals*. T. F. and R. B. Smith assisted in its development.

KRANICH

Specialists in

PURE POWDERED SOAPS

•

CASTILE, POWDERED
U. S. P.

•

COCONUT, POWDERED
Pure

•

COCO-CASTILE, POWDERED
50-50

•

POTASH SOAPS

Liquid Olive Oil Soap Shampoo

Liquid Coconut Oil Soap Shampoo

Liquid Castile Soap Shampoo

Shampoo Base (Olive Oil & Coconut Oil)

Oil Soaps Scrubbing Soaps

KRANICH SOAP COMPANY

56 Richards St. Brooklyn, N. Y.

SOAPS

Forward with America!

FOR ALMOST A CENTURY AND A QUARTER

America has come a long way since 1816, when Innis, Speiden & Company built their first plant at Poughkeepsie, N. Y. • And, we're proud to say, we too have come a long way in our role of supplying Industrial Chemicals to American Industry.

Today, with headquarters in New York and warehouses at convenient distributing points over the country, and two great modern plants at Niagara Falls and Jersey City, ISCO has gone forward in step with the progress of the Republic. • Look to us for INDUSTRIAL CHEMICALS, GUMS AND WAXES—and Allied Lines, for example:

BORAX and BORIC ACID — Technical and U.S.P. qualities.

NAPHTHALENE—Refined, prime white, freshly packed. Barrels, Cartons and 12 and 16 Oz. Packages.

PARA-DICHLOROBENZENE — Prime quality material, with crystallizing point of 52.8° C. Also . . .

ORTHO-DICHLOROBENZENE and MONO-CHLOROBENZENE
. . . in commercial packages.

and a host of other Industrial Chemicals for the Soap Manufacturer

INNIS, SPEIDEN & CO.
Established 1816
117-119 Liberty Street • • • NEW YORK
BOSTON • PHILADELPHIA • CHICAGO • CLEVELAND • GLOVERSVILLE, N. Y.

A National Institution

Raw Material Prices

(As of October 25, 1940)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities

Chemicals

Acetone, C. P., drums	lb.	$ .06½	$ .07
Acid, Boric, bbls. 99½%	ton	96.00	128.00
Cresylic, drums	gal.	.68	.70
Low boiling grade	gal.	.68	.70
Muriatic, C. P., carboys	lb.	.08	—
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, drums	lb.	.24½	.25
Anhydrous, drums	lb.	.26½	.27
Alcohol, Ethyl, U.S.P., bbls.	gal.	5.99½	6.06
Complete Denat., SD 1, dms., ex.	gal.	.29½	.34½
Alum. Potash lump, bbls.	lb.	.04	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., bbls.	lb.	.08	—
Bentonite, 1, works, 325 mesh	ton	16.00	—
Bentonite, 2, works, 200 mesh	ton	11.00	—
Bleaching Powder, drums	100 lb.	2.00	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	1.10
L. C. L.	gal.	.73	1.20
Caustic, see Soda Caustic, Potash Caustic			
China Clay, filler	ton	10.00	16.00
Cresol, U.S.P., drums	lb.	.09¾	.10¼
Creosote Oil	gal.	.13½	.14½
Feldspar, works (200 to 325 mesh)	ton	32.00	35.00
Formaldehyde, bbls.	lb.	.05½	.06
Fullers Earth	ton	15.00	—
Glycerine, C.P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08⅛	.08¾
Soap, lye, drums	lb.	.07⅛	.07⅜
Hexalin, drums	lb.	.30	—
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.07	.07¼
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorbenzene, drums	lb.	.11	.13½
Petrolatum, bbls. (as to color)	lb.	.02¾	.07½
Phenol (Carbolic Acid), drums	lb.	.13	.14¾
Pine Oils, bbls.	gal.	.50	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03½	.03¾
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03⅛
Pumice Stone, powder	100 lb.	No Prices	
Rosins (net wt., ex yard, New York)—			
Grade D to H	100 lb.	2.36	2.36
Grade I to N	100 lb.	2.38	2.47
Grade WG to X	100 lb.	2.94	3.32
Wood, ex. dock	100 lb.	1.40	1.90
Rotten Stone, pwd., bbls.	lb.	—	—
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.20	.35
Olive Castile, powder	lb.	.26	.36
Powdered White, Neutral	lb.	.18½	.20
Olive Oil Foot, bars, 68-70%	lb.	.09	—
Green, U.S.P.	lb.	.08	.09
Tallow Chips, 88%	lb.	.06⅛	.06¾
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.10	1.35
Carlots, in bulk	100 lb.	.90	.95
Soda Caustic, cont., wks., solid	100 lb.	2.30	—
Flake	100 lb.	2.70	2.95
Liquid, tanks, 47-49%	100 lb.	1.95	—
Soda Sal., bbls.	100 lb.	1.10	1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07	.08¼
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.75	4.80
Crystalline	100 lb.	2.35	3.35
Sodium Pyrophosphate	100 lb.	5.10	5.30
Sodium Silicate, 40 deg., drum	100 lb	.80	1.20
Drums, 52 deg. wks.	100 lb	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.22	.27
Triethanolamine	lb.	.19	.20
Trisodium Phosphate, bags, bbls.	lb.	.0225	.0285
Zinc Oxide, lead free	lb.	.06½	.07

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.05¾	Nom.
Castor, No. 1, bbls.	lb.	.10¼	.11
No. 3, bbls.	lb.	.09¾	.10½
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.02⅞	—
Tanks, Pacific Coast, futures	lb.	.02½	—
Copra, bulk, coast	lb.	.0150	—
Corn, tanks, Mills	lb.	.05⅛	.05¼
Cottonseed, crude, tanks, mill	lb.	.04⅛	.04⅜
PSY, futures	lb.	.05⅜	.05⅝
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.08¼	.08½
Coconut Oil, tanks, Twitchell, Chi.	lb.	.09¼	.09½
Cotton Oil, tanks, Chicago	lb.	.07¼	.07½
Settled soap stock, Chicago	lb.	.02⅝	.02¾
Boiled soap stock, 65%, Chi.	lb.	.03⅜	.03¾
Foots, 50%, Chicago	lb.	.01⅜	.01½
Red Oil, bbls., dist. or sapon.	lb.	.06¼	.07¼
Tanks	lb.	.05¾	—
Stearic Acid, saponif.			
Double pressed	lb.	.09¼	.10¼
Triple pressed	lb.	.12	.13
Greases, choice white, tanks	lb.	.04	.04⅛
Yellow	lb.	.03¾	—
Lard, city	lb.	.04½	.04⅝
Linseed, raw, bbls.	lb.	.0830	.0930
Tanks, raw	lb.	.0770	.0790
Olive, denatured, bbls., N. Y.	gal.	1.90	1.95
Foots, bbls., N. Y.	lb.	.09½	.09¾
Palm, Sumatra, cif. New York, tanks	lb.	.02¼	—
Palm, kernel, shipment	lb.	No Prices	
Soya Bean, domestic, tanks, crude	lb.	.03⅞	.04
Stearine, oleo, bbls.	lb.	.06⅛	Nom.
Tallow, special, f.o.b. plant	lb.	.04	—
City, ex. loose, f.o.b. plant	lb.	.04⅛	—
Teaseed Oil, crude	lb.	.16	Nom.
Whale, refined	lb.	.0910	—

The Rifa-New York Offers:

ESSENTIAL OILS
(spot delivery subject to prior sale)

BENZOIN SOL. RESIN

BOIS DE ROSE (Brazil)

CORIANDER EXTRA

GINGERGRASS EXTRA

OLIBANUM SOL. RESIN

OTTO OF ROSE

PALMAROSA

PATCHOULY
(well matured)

PETITGRAIN S.A.

PINE NEEDLE OIL
(Siberian)

ROSE ABSOLUTE

SAGE SCLARY

VETIVERT BOURBON
(extrafine)

VIOLET LEAF ABS.

YLANG YLANG
BOURBON EXTRA

YLANG YLANG NO. 1

YLANG YLANG NO. 3

RIFA

AROMATIC CHEMICALS
(regular deliveries)

ALDEHYDE C12 MNA
(Methyl Nonyl Acet-Ald.)

ALDEHYDE C19 100%
(Pineapple Aldehyde)

ACETOPHENONE

ALPHA AMYL CINNAMIC ALDEHYDE

AMYL SALICYLATE

ANISIC ALDEHYDE

BENZYL ACETATE

CITRAL PURE

CITRONELLOL EXTRA

COUMARIN

DIETHYL PHTHALATE

DIPHENYL OXIDE

ETHYL VANILLIN

GERANIOL

GERANYL ACETATE

HELIOTROPINE (imported)

HYDROXY-CITRONELLAL
(extrafine, imported)

HYDROXY-CITRONELLAL
Residue

IONONE A.B. 100%

METHYL IONONE

METHYL ISO EUGENOL

MUSK AMBRETTE

MUSK XYLOL

NAPHTHYL KETONE

PHENYLACET ALDEHYDE 100%

PHENYLACET ALDEHYDE 50%

PHENYLACET ALD.-DIMETHYL-ACETAL

PHENYL ETHYL ALC.

ROSE CRYSTALS

TERPINEOL

TERPINYL ACETATE

RIFA SPECIALTY PRODUCTS

	Lb.
ROSANTHOL GB Powerful rose body.	$4.00
ROSANTHOL I Rose body.	1.75
ROSANTHOL Special for Soap. All Rosanthol types are nondiscoloring.	3.25
HYACINTHON For Hyacinth, Lilac, etc. Nondiscoloring. Used in place of Bromstyrol.	3.50
LAVENDIX Addition to Lavender oils, to bring out and accentuate the true characteristics of the Lavender flower. Non-discoloring.	4.00
LAVENDONE Like Lavendix, mainly for use in soap. Nondiscoloring.	3.75
LAVENDER SYNTH. 40% Ester Content. Very useful for cost reduction of Lavender oils.	2.75
GAMMA NEUTRALIZER A balsamic product for the elimination of the sharpness of alcohol.	3.50
NEROLI RF A strong Neroli base especially useful in soap perfumery.	3.00
FOUGERE ABS. SYNTH. Powerful base for the creation of woody or earthy perfumes.	11.50
ROSE ABS. SYNTH. Excellent product for quality perfumes.	18.00
JASMIN ABS. SYNTH. For floral lift and character.	27.50
CIVET ARTIFICIAL Fixative and Modifier.	6.50
FIXATEUR KN Fixative with a balsamic note.	2.10
OREOL Orange flower body.	6.50

PERFUME BASES

FOR EXTRAITS

	Lb.
ALDEHYDINE *1018N* Modern type.	$19.20
AMASYS Distinctive base.	16.50
AMBRA *1036 N* Fixative and Modifier.	12.50
AROME BORGHESE *1060 N* Spicy type.	15.50
BASE IR Modern type.	10.80
BASE FR French type.	16.50
BASE, S. H. *1125 N* Modern, spicy.	17.20
BASE TW *6200 D* An autumn inspiration.	13.50
BASE S.M. *62* An outstanding modern base.	26.00
FOUGERE R Sweet earthy character.	11.50
TABAC BASE *99* Floral base, smoky touch.	10.00
JASMIN *471* Character plus originality.	18.50

FOR LOTION

AMARANTHE Floral odor.	$7.50
ANDALUCENA A man's perfume.	10.50
APPLE BLOSSOM Sweet and smooth.	7.20
BOUQUET *752* Spring bouquet.	16.50
COLOGNE *2838 N* Distinctive Cologne.	16.50
COLOGNE *1502 N* Classical Cologne type.	11.50
COLOGNE *1484 N* Alluring characteristics.	6.00
COLOGNE TF *312* Soluble i/50% alcohol.	7.50
LILAC VEGETAL Leafy, woody type.	8.75
LILAC *2413 N* A vivid red lilac.	8.75
LILY *3632* True Muguet base.	18.50
LOTION PERF *94* Floral Cologne type.	7.80
LOTION PERF *952* Sweet, slightly fruity.	12.50
WHITE ROSE *603* Charming, refreshing.	5.00
VIOLET PARMA Exceptionally strong.	22.00

RIFA-NEW YORK, INC.

ESSENTIAL OILS · PERFUME BASES · AROMATIC CHEMICALS

153 Waverly Place, New York, N. Y. **Chicago Office: 130 N. State Street**

(As of October 25, 1940)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.75	$3.00
Bitter, F.F.P.A.	lb.	3.00	3.25
Sweet, cans	lb.	.70	.75
Anise, cans, U.S.P.	lb.	.90	1.00
Bay, cans	lb.	1.20	1.25
Bergamot, coppers	lb.	8.50	Nom.
Artificial	lb.	1.75	3.00
Birch Tar, rect., cans	lb.	.85	.90
Crude, dms.	lb.	.27	.28
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.70	1.80
Cade, cans	lb.	.37	.40
Cajeput, native, cans	lb.	.62	.72
Calamus, cans	lb.	8.25	8.50
Camphor, Sassy, drums	lb.	.28	.29
White, drums	lb.	.32	.33
Cananga, native, cans	lb.	1.60	1.65
Rectified, cans	lb.	2.00	2.35
Caraway Seed	lb.	5.00	Nom.
Cassia, Redistilled, U.S.P.	lb.	1.40	1.50
Cedar Leaf, cans	lb.	.90	.95
Cedar Wood, light, drums	lb.	.22	.25
Citronella, Java, drums	lb.	.36	.38
Citronella, Ceylon, drums	lb.	.38	.40
Clove, U.S.P., cans	lb.	1.15	1.20
Eucalyptus, Austl., U.S.P., cans	lb.	.70	.72
Fennel, U.S.P., cans	lb.	1.90	2.00
Geranium, African, cans	lb.	5.25	7.00
Bourbon, cans	lb.	5.40	7.00
Turkish	lb.	2.25	2.50
Hemlock, tins	lb.	.85	1.00
Lavender, U.S.P., cans	lb.	3.50	3.75
Spike, Spanish, cans	lb.	1.10	1.15
Lemon, Ital., U.S.P.	lb.	4.75	Nom.
Cal.	lb.	3.10	3.25
Lemongrass, native, cans	lb.	.75	.85
Linaloe, Mex., cases	lb.	1.30	1.35
Nutmeg, U.S.P., cans	lb.	2.10	2.15
Orange, Sweet, W. Ind., cans	lb.	2.00	2.10
Italian cop	lb.	8.25	Nom.
Distilled	lb.	.90	—
California, expressed	lb.	2.00	—
Origanum, cans, tech.	lb.	1.05	1.45
Patchouli	lb.	4.75	6.00
Pennyroyal, dom.	lb.	3.00	Nom.
Imported	lb.	2.50	2.75
Peppermint, nat., cans	lb.	2.35	2.60
Redis, U.S.P., cans	lb.	2.60	2.85
Petitgrain, S. A., cans	lb.	1.35	1.60
Pine Needle, Siberian	lb.	1.25	1.30
Rosemary, Spanish, cans	lb.	.59	.64
drums	lb.	.54	.59
Sandalwood, E. Ind., U.S.P.	lb.	4.95	5.25
Sassafras, U.S.P.	lb.	1.00	1.25
Artificial, drums	lb.	.72	—
Spearmint, U.S.P.	lb.	2.10	2.30
Thyme, red, U.S.P.	lb.	.80	1.75
White, U.S.P.	lb.	.95	1.95
Vetivert, Bourbon	lb.	4.00	5.75
Ylang Ylang, Bourbon	lb.	4.00	8.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.60	—
Amyl Cinnamic Aldehyde	lb.	1.70	$2.00
Anethol	lb.	1.10	1.15
Benzaldehyde, tech.	lb.	.45	.50
U.S.P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.40	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.85
Citronellyl Acetate	lb.	4.00	7.00
Coumarin	lb.	2.75	3.00
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.80	.85
Eugenol, U.S.P.	lb.	1.75	2.00
Geraniol, Domestic	lb.	.60	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	3.00	3.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	lb.	32.00	34.00
Ionone	lb.	2.75	3.95
Iso-Eugenol	lb.	2.80	4.25
Linalool	lb.	2.10	3.30
Linalyl Acetate	lb.	1.75	3.00
Menthol	lb.	2.50	3.25
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.20	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.65	3.95
Ketone	lb.	3.70	4.10
Xylol	lb.	1.05	1.20
Phenylacetaldehyde Sp.	lb.	2.10	2.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.30	3.35
Rhodinol	lb.	5.50	10.90
Safrol	lb.	1.00	1.10
Terpineol, C. P., drs.	lb.	.25	—
Cans	lb.	.28	—
Terpinyl Acetate, 25 lb. cans	lb.	.82	.85
Thymol, U.S.P.	lb.	1.55	1.60
Vanillin, U.S.P.	lb.	2.50	2.75
Yara Yara	lb.	1.25	1.55

Insecticide Materials

Insect Powder, bbls.	lb.	.23	.26
Pyrethrum Extract			
5 to 1	gal.	1.20	1.30
20 to 1	gal.	4.75	5.00
30 to 1	gal.	7.10	7.45
Derris, powder—4%	lb.	.17	.20
Derris, powder—5%	lb.	.23	.26
Cube, powder—4%	lb.	.18	.22
Cube, powder—5%	lb.	.22	.26
Squill, dried	lb.	.90	1.20
Phosphorus paste	lb.	.25	.62½

Gums

Arabic, Amb. Sts.	lb.	.14	.15
White, powdered	lb.	.18	.20
Karaya, powdered No. 1	lb.	.14	.33
Tragacanth, Aleppo, No. 1	lb.	3.50	3.75
Flake	lb.	No Prices	

Waxes

Bees, white	lb.	.35	.37
African, bgs.	lb.	.28	.29
Refined, yel.	lb.	.29	.31
Candelilla, bgs.	lb.	.18½	.19½
Carnauba, No. 1, yellow	lb.	.72	.74
No. 2, N. C.	lb.	.66	.71
No. 3, Chalky	lb.	.59	.61
Ceresin, yellow	lb.	.11	.14½
Paraffin, ref., 125-130	lb.	.0570	—

WHAT DO YOU KNOW ABOUT PURIFICATION METHODS?
Even though you have an extensive knowledge of the subject, we offer you an opportunity to become intimately acquainted with NUCHAR Activated Carbon, The Modern Purifier.
Today, NUCHAR is being used in the Oil and Soap field to replace less efficient and sometimes costlier methods in the purification of OILS, FATS, GLYCERINE AND RELATED PRODUCTS. Tests in our laboratories indicate that NUCHAR has unlimited possibilities for the economical removal of odor, color and taste from a long list of other products.
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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Comments on Soap Boiling

SINCE neutral soap free from impurities and superior in color and texture is best made by the full boiled process this is the most important and the one most widely used, according to comments on practice in India. Best results are obtained by the use of six steps: (1) Preliminary saponification with a brine wash; (2) Second change with a brine wash; (3) Rosin change with rosin added after graining; (4) First strong change; (5) Second strong change; and (6) Fitting.

Soap fats are run into the kettle and heated with open steam coils. Caustic lye is run in by means of a spraying arrangement, and the kettle heated by steam coils. If during addition of lye, the contents show a granular appearance addition of lye should be stopped and water should be sprayed in. If the contents show a tendency to become too thick, salt is added to check this. With coconut oil and palm kernel oil used in high proportions, salt may be present in the kettle from the beginning, as these oils have a marked thickening action.

If the kettle shows danger of boiling over, the steam should be shut off, and if this precaution is insufficient, cold water should be run into the kettle quickly. Spraying cold water on top is the most effective method. Boiling should not be resumed until the mass has subsided. When the oils and lye have been boiled for a long enough time, a sample is withdrawn on a trowel or wooden paddle and is cooled between the thumb and fingers. When cool it is tasted with the tongue and if it bites, more oil is added. After further boiling, the mass is tested with a 0.5 per cent alcoholic solution of phenolphthalein, when the pink color should develop slowly on a finger-cooled sample. At this stage the soap will run off a hot trowel as a thin heavy liquid. Graining is done by spreading granular salt over the surface of the boiling mass or by adding a strong brine solution. Salt is added until soap removed on a ladle leaves grains on the ladle, with clear water running off. After a short period of further boiling the kettle is allowed to settle overnight.

A sample of spent lye is withdrawn and tested for alkalinity. If too alkaline, the kettle should be boiled again with the addition of more soap stock. Excess alkali present is wasteful during glycerine recovery. If the amount of lye present is small, the spent lye is run off and stored. The kettle is boiled with steam, and water added to close the soap. If the soap fails to close either all the lye has not settled out or previously undissolved salt has grained the soap. When this happens it is better to grain the soap again.

After the soap is closed, boiling is continued and any remaining soap stock run in, with caustic soda added as done in the first change. After removing spent lye from the second change, the kettle is boiled with steam, and water added to close the soap. When saponification is complete, soap taken between the thumb and finger should set hard and should not leave a greasy impression. The pan is grained with salt, only a small quantity being needed. Rosin is added and caustic soda run in cautiously. Sometimes rosin is saponified in a separate pan and the rosin soap added. After the pan has been allowed to settle the spent lye is drawn off to the storage tank for glycerine recovery.

In order to complete saponification and to wash out excess salt, strong caustic lye (not less than 34° Be.) is added slowly but not continuously to the kettle in a closed state. After graining, the lye is withdrawn and stored for further use in saponification of other soap stock. A finer soap will be obtained with a second strong change, the object of this change being to reduce the amount of water. In this change, the kettle is not brought to the full closed state. The soap is boiled and a small amount of water added, then the caustic, followed by thorough boiling and settling overnight.

After the spent lye is removed, the soap at this stage is slightly grained. Open steam is used to boil the kettle. Dilution of the soap to give 45-48 per cent anhydrous soap gives the best result. When the soap is closed and the correct dilution obtained a sample is withdrawn on a trowel, the latter first being held in the kettle long enough to heat it. When the trowel is removed it should

be held horizontal and then tilted at 45°. If the fitting is complete the soap will run off in thin transparent flakes about 2″ x 4″. The surface of the trowel should then dry within 30 seconds. If the flakes are smaller, the soap is said to be coarse. If the soap flakes with difficulty and leaves the trowel greasy, the soap is very fine. Passing from coarse fit to a fine fit is controlled by the addition of water by gradually condensing the steam. When the fit is nearing completion, the soap changes from a dull and pasty appearance to clear, bright and transparent. If the soap accidentally reached a very fine fit, the whole kettle can be brought back to medium fit by adding salt solution and caustic alkali. After the soap has been fitted properly, the top portion of the soap contains 60-62 per cent of fatty acid, the portion just above the nigre line 55-60 per cent, and the lower part of the nigre 5-10 per cent.

Neat soap is separated from nigre and run into the crutcher until the level of the warm liquid is just above the top blade. Any free alkali present is removed by the addition of a small quantity of soap stock or bicarbonate of soda or potash. Filler, color and perfume are added during the crutching. The soap is then pumped to frames or to a cooling machine, after which it can be cut, stamped and packed. R. G. Gupta. *Indian Soap J.* **6,** 369-76 (1940).

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Cyclic Detergent

Products of great capillary activity are obtained by introducing groups which favor the solubility in water of secondary aromatic amino compounds which contain an alkyl or cycloalkyl residue as substituent of the amino groups, and an alkyl or cycloalkyl residue of at least three carbon atoms as substituent of the aromatic ring. As an example 26.2 parts of isohexyl-*N*-hexylaniline are heated for many hours at 70° C. with 12 parts of chlorosulfonic acid. The detergent and dispersive products formed are easily soluble in water and possess foaming power. I. G. Farbenindustrie A.-G. French Patent No. 842,743.

Soap Preparations

To soaps of synthetic fatty acids are added pyrophosphates, secondary orthophosphates, metaphosphates, borax or alkaline or ammoniacal sesquicarbonates in amounts of 1-50 per cent of the weight of the soap. The synthetic fatty acids are obtained by the oxidation of non-aromatic hydrocarbons such as crude petroleum paraffin or mixtures of paraffin and unsaponifiable residues resulting from the oxidation of paraffin. Standard Oil Development Co. and I. G. Farbenind. A.-G. French Patent No. 842,985.

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Synthetic Textile Aids

Stearic, palmitic, myristic and lauric acids were converted to the 2-sulfonic acid mono- (I) and disodium salts (II) and the 2-sulfonic acid sodium salts of the amides (III), methylamides (IV) and phenylamides (V). The detergent power of these compounds was evaluated by (a) the Herbig number which is the percentage by weight of soluiton taken up by a piece of immersed goods, (b) the sinking time of cotton and wool pieces, and (c) the drop number as measured by the Donnan pipet. Measurements were made at concentrations of 0.01-0.1 per cent and temperatures of 40-70° C. The different methods gave somewhat inconsistent results, no one method being suitable as a basis for technical evaluation. By all three methods compound II was better than I or III, and IV was better than III or V. T. N. Mehta and D. M. Trivedi. *Melliand Textilber.* **21,** 117-19, 288-93 (1940).

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Hydrogenation of Fats

Hydrogenation has opened up new uses for many fats and oils. Large quantities of fish and whale oils are hydrogenated for both edible and industrial uses. Hydrogenation destroys permanently the characteristic objectionable taste and odor of marine animal and fish oils so that they can be used in making shortenings and also soap. Temperature, pressure, kind and amount of catalyst, intensity of the mixing, kind and quality of the oil, and purity of the hydrogen affect the velocity of the reaction and its selectivity.

The nature and condition of the oil or fat have an important bearing upon the subsequent hardening operation. In general, the following substances should be largely removed from fats prior to hardening in order to decrease catalyst consumption: Soaps, oxidized fats, gelatin and gelatin decomposition products usually met with in animal fats, colloidal suspensions of albuminous matter, proteins, phosphatides, organic and inorganic sulfur compounds, organic and inorganic chlorine compounds, water, and large amounts of free fatty acids. Caustic refining or treatment with monosodium phosphate coagulates and removes most of these objectionable compounds, and further treatment with Fuller's earth, vegetable carbon, and filter aids assist in purifying the fat. Oils high in free fatty acids and intended for industrial uses are usually given special treatments, since caustic refining would entail too high a refining loss to be economical. Such partially refined oils require more catalyst. Preparation of the other materials for hydrogenation and a description of the process is given. Oscar H. Wurster. *Ind. Eng. Chem.* **32,** 1193-9 (1940).

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Emulsifying Agents

At temperatures between 80° and 150° C. 96-100 per cent sulfuric acid is brought into contact with a saturated primary alkanol and aliphatic, cyclic or mixed aliphatic thio ether. During the reaction sulfur trioxide or oleum and alkanol can be added to maintain the concentrations. The products are emulsifying agents with foaming power. N. V. de Bataafsche Petroleum Maatschappkj. Dutch Patent No. 47,897.

—— ♦ ——

Bleaching Palm Oil

The coloring matter in palm oil is decomposed by heat by bringing the oil to 200-450° C. in a non-oxidizing atmosphere. The decomposed color substances can then be removed from the oil. Francis M. Sullivan. Canadian Patent No. 390,928.

Oil Chemists Hear Report on Effect of War on British Soapers

ECHOES of war in Europe were heard at the Fall meeting of the American Oil Chemists' Society in Chicago, Oct. 2 to 4, when M. P. Woodward of Procter & Gamble Co., reported on "The Effect of the War on the Soap Industry in Great Britain." As yet, Mr. Woodward said, the effect on British soap production has been relatively slight. Fat supplies have been adequate in total to date. The heavy chemical situation is quite good, since these are produced domestically, although under license. Rosin is not controlled but is higher in price than most fats. Other highlights, briefly stated, follow.

All outside purchases of oil fats and oil seeds are made by the government. After edible requirements are satisfied, soap makers get the rest. Every three months they must make reports of fat usages. Whale oil goes chiefly into edible products, with very little for soap, while darker grades of African palm oil go to soap.

There has been no government rationing of soap but most manufacturers find it desirable to ration customers on a pre-war ratio. Government orders must be given priority. Workmen's cooperative purchasing societies are advocating a standard bar soap and powder, to be produced by all makers and that brand names be abandoned. This plan, he said, has been carried out in the edible fat industry, but he expressed the hope that it would not be necessary for soap.

Effects of the war are more obvious in the marketing phase of the industry, he continued. Cartons and containers have been reduced to a minimum, and many are salvaged for re-use. Since pulp and paper supplies are limited, soap makers are alloted 40 per cent of pre-war requirements. Bar soap wrappers are forbidden and paper for non-essential use restricted. The paper shortage also limits advertising, while free samples and premiums have been abandoned.

Glycerine control is not much of a problem and all stills in the country are in operation. Any firm not producing a standard grade, however, is restricted in allocation of raw materials.

L. Young of Fritzsche Bros., New York, who discussed "Modern Methods For Replacement of Essential Oils in the Soap Industry," made a plea for a more liberal attitude towards use of synthetic soap perfumes. In early days only natural oils were available, he pointed out, while today the soap perfumer has valuable and economic means for re-enforcing his supplies. "Art and science" said Mr. Young, "have combined to produce many excellent replacements of natural essential oils. Soap perfumers, however, often regard the so-called synthetics as necessarily inferior. Where care has been exercised, these are, in fact, far superior to natural oils in many cases."

W. D. Pohle of the Naval Stores Research Division, Bureau of Agricultural Chemistry and Engineering, U. S. Department of Agriculture, discussed "The Germicidal Activity of Rosin Soap and Fatty Acid Soap as Indicated By Hand-Washing Experiments." Previous investigations, he recalled, had indicated that rosin soaps have more active germicidal effect than fatty acid soaps and the project conducted by himself and L. S. Stuart of the Eastern Regional Research Laboratory, Wyndmoor, Pa., sought supplementary evidence. He detailed procedure followed and illustrated results with graphs and statistical tables. Summarizing, he declared the study indicated that resident bacterial flora of the hand is reduced by rosin soap when used regularly and that the usual commercial toilet soaps are "not so effective."

Discussing "Colorimetric Determination of Titanium Dioxide in Soap," L. B. Parsons of Lever Bros. Co., Cambridge, Mass., described efforts to determine the effect of this chemical in adding color to toilet soaps when other chemicals are present. He detailed the method used and declared the experiments indicated that this method is trustworthy and gets good results.

Investigating "The Behavior of Subsilicates With Soap," two chemists of Pennsylvania Salt Co., Richard L. Davies and J. Stanley Hall, Wyandotte, Mich., reached the conclusion that "Subsilicates are an ideal soap builder and eminently suitable in commercial laundries where they can be used with considerable success." Their paper, offered suggestions for manipulation of the product in the laundry to avoid trouble and obtain successful results.

Martin B. Chittick of Pure Oil Co., Chicago, discussed another important topic in his paper "Soaps in Lubricating Greases." He noted an increased demand for soaps by lubricant makers to satisfy automotive, industrial, agricultural and other developing markets. Until recently, he pointed out, little was known of basic reasons for the structure and texture of lubricating greases. Great strides have been made in understanding the petroleum element in grease, he continued, but the rising interest in metallic soaps for lubricants calls for research on their structure and action in greases. The potential annual market for lubricating greases was put by Mr. Chittick at 5,600,000,000 pounds. He added that the average soap content of all classes of greases is only 10 per cent. There is need, he concluded, for from 50 to 60 million pounds of fats and fatty acids in the grease industry.

Reports on developments in the Oil Chemists Society's service program for the industry were presented by M. L. Sheely of Armour Soap Works, Chicago, chairman of the Soap Analysis Committee, and by J. T. R. Andrews, of Procter & Gamble Co., Ivorydale, O., chairman of the Glycerin Analysis Committee. Then to round out the day's program devoted to soap, Dr. Ernest S. Guenther of Fritzsche Bros. presented a motion

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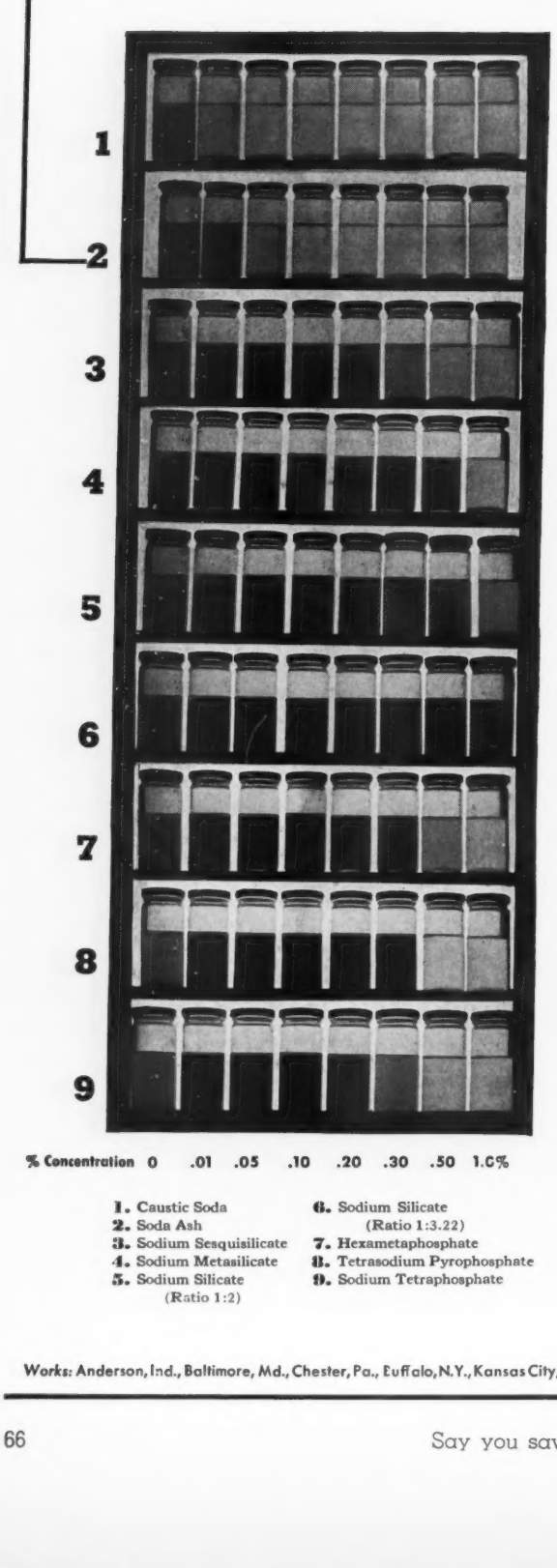

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In the tests pictured here the same amount of Ilmenite Black in each series was used, grading from distilled water without added chemicals on the left to a concentration of 1% on the right. The bottles stood 20 hours after being shaken at a temperature of 60° Centigrade, chosen as a typical laundry temperature.

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picture story of one of his trips to explore sources of essential oils in the West Indies, South and Central America.

Discussions during the two remaining days of the meeting concerned edible fats and oils and industrial uses other than for soap. Dr. H. A. Schuette, of the University of Wisconsin, president of the Society, had general charge of proceedings. A large local committee, headed by J. P. Harris of Industrial Chemical Sales, arranged an entertainment program of dinners, smokers, tours and parties for the several hundred scientists and their wives in attendance at the Oil Chemists' Sessions.

Washing Spun Rayon

During the last year spun rayon has been in tremendous demand for sports apparel, shirts, dresses, etc. One result of the activity in the production of spun rayon fabrics is a lack of attention on the part of manufacturers to fundamental "performance characteristics" of the fabrics, such as fastness to washing and shrinkage. Some garments launder satisfactorily while others fade and shrink excessively.

Because of this it is impossible to suggest a laundering procedure with any definite assurance of success. For the best results spun rayon garments should either be hand-washed or washed according to a "silk" formula. A short formula is recommended employing two 5-minutes suds and four 3-minutes rinses, with high water levels to minimize mechanical action. The temperature should not be in excess of 110°F. The detergent should be such as would normally be used for silks and wools. If excessive color loss, bleeding or streaking occurs with this formula, the garment possesses poor launderability.

Most of the moisture should be dried out of the garments, after which they can be steam-pressed or steam-ironed. Or they can be ironed on the reverse side when damp. Am. Inst. of Laundering Service Bull. through *Rayon Textile Monthly* **21,** 455 (1940).

Prevention of Joint Corrosion

A new method for preventing selective corrosion of joints, rivet heads or bases or any other surface irregularity in aluminum, light alloy or steel storage tanks employs metal foil backed with a synthetic plastic adhesive. This method was developed in Great Britain.

The metal surface to be treated is cleaned free of grease and given a light coating of an adhesive similar to that used for backing the metal foil. The adhesive is in liquid form and dries quickly. After it is allowed to harden, strips of the metal foil, coated on one side with a thermoplastic adhesive, are then placed in position and low heat and light pressure applied. A special thermostatically controlled iron, similar in shape to the ordinary domestic iron, is used for applying heat and pressure. The temperature of the iron is maintained at 115° C. After it has cooled, the metallic foil remains securely in place held by the adhesive, which possesses a slight plasticity and retains its flexibility indefinitely. The covered surface may then be polished or treated in any manner desired.

The adhesive used is a combination of synthetic resins and contains a metallic chromate which has anti-corrosive properties. Oil and many other solvents, it is said, have no deteriorating effect on the adhesive.

Metaphosphate in Laundering

Glassy sodium metaphosphate may be used to considerable advantage in the laundry, as demonstrated by a series of controlled washroom tests, using formulas with and without metaphosphate. The material is introduced with the stock solution of soap and alkali and is thus applied to the wheel in the sudsing operations. Zeolite-softened water was used but this left a residual hardness of about 0.4 grain per gallon. It is believed that the improved results obtained with metaphosphate are related to the degree of softening produced by the proper concentration of the metaphosphate, slightly more being used than required to soften the water. It is suggested that metaphosphate may also possess detergent properties of its own.

With a high metaphosphate formula in which 7.3 ounces of metaphosphate were used per load, the amounts of soap and alkali were reduced sufficiently to make a saving in total cost per load of 4.7 cents. B. H. Gilmore and C. J. Munter and E. R. Burnett. *Ind. Eng. Chem.* **32,** 1233-7 (1940).

Neutral Fat in Soap

To determine neutral fat in soap stock, weigh out from a weighing bottle 8-10 grams of a well mixed sample and transfer to an extraction cylinder. Dissolve in 125 cc. of 50 per cent redistilled alcohol. Add 50 cc. of petroleum ether and shake until a homogeneous solution is formed. Cool to 20-25° C. and add 10 cc. of a 14 per cent solution of potassium hydroxide. Shake gently until thoroughly mixed. Add 25 cc. of 50 per cent alcohol and shake until mixed. Let settle into two layers. Draw off the petroleum ether layer after 30 minutes, or sooner if convenient, by means of a glass siphon, into a 500 cc. separatory funnel. Extract at least four more times, using 50 cc. of petroleum ether each time.

Wash the combined extracts with three 25 cc.-portions of 10 per cent alcohol, or until neutral to phenolphthalein, shaking well each time. Transfer the petroleum ether extract to a tared Soxhlet flask. Evaporate off the petroleum ether and dry to constant weight at 105° C. Weigh as neutral oil plus unsaponifiable matter. W. T. Watkins *et al. Oil & Soap* **17,** 143 (1940).

Bleaching Palm Oil

Palm oil is bleached with the aid of activated Fuller's earth, the product being suitable for food use. The neutralized oil is treated with 5 per cent of its weight of Fuller's earth at a temperature of about 90°C. for 45 minutes. The color reading of the treated oil is about 1 unit of yellow measured in a cell of 1/8 inch. The Delhi type of palm oil gives an exceptionally pale product. *Bull. des Matieres Grasses* **24,** 111 (1940).

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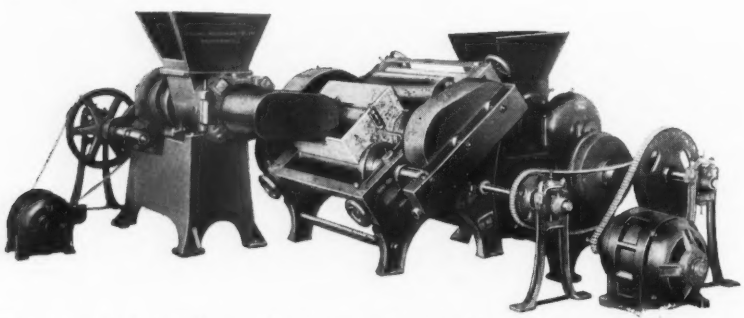

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Oxygen Washing Powder

A homogeneous powder of uniform structure containing soap, frothing agents, per compounds and other materials such as borax, sodium silicate, phosphates, soda ash, etc., is obtained by pulverizing all the components, except the per compounds, in a current of gas in the form of a deep cone. The per compounds are added in a pulverized state to the lower part of the cone. Henkel & Cie. B.m.b.H. French Patent No. 842,831.

Tailors' Soap

A not inconsiderable quantity of soap is employed by the tailoring trade, where it is rubbed from a bar on to the seams, particularly those of the coat lapels and the trouser cuffs. For this purpose it is necessary that the soap shall be soft enough to slide off as it is rubbed on the seam, and yet sufficiently resistant to heat that when ironed it passes into the fabric and stiffens it when cold, and on no account must it pass right through the fabric. The trade generally says that the average household soap is not suitable for the job. Analysis of the fatty acids from one of the oldest and most popular of these soaps indicated a pan charge of 15 per cent coconut oil, 15 per cent rosin, 50 per cent palm oil, and 20 per cent cottonseed oil. Other formulas differing considerably from this have been found to be suitable. A vital constituent appears to be 15-20 per cent of rosin. A. Rayner. *Soap, Perfumery & Cosmetics* **13,** 438 (1940).

Alkaline Detergents

A composition consisting principally of a hydrated sodium phosphate and carbonate complex is formed by admixing trisodium phosphate and a sodium carbonate compound containing less hydrogen than sodium bicarbonate, in proportions to provide a ratio of 0.5-1.8 phosphate groups to each carbonate group. Water is present in the proportion of at least 45 per cent of the solid compounds. The resultant mixture is dried to form a normally solid, pulverizable product containing 18-26 per cent of water in stable combination. Griffith Laboratories Inc. British Patent No. 510,911.

Catalytic Soap Darkening

Soap containing 0.001 per cent of cupric oxide or ferric oxide showed a noticeable darkening after exposure for four weeks to diffused daylight at 20-25° C.; that containing 0.005 per cent of either oxide showed deterioration after one week. It is suggested that rancidity proceeds in the following manner: The unsaponified fat, which is in a finely divided state in the soap, oxidizes in the presence of moisture, light and catalysts to form lower molecular-weight fatty acids, aldehydes, ketones and other products, with a decrease in the alkalinity of the soap, until finally all free alkali is removed and rancid acid soap remains. Mykola Zajcev. Seifensieder-Ztg. **67,** 132 (1940).

Spent Lye Purification

By titrating a number of 100 cc. samples of spent soap lye, using a glass electrode pH meter and 0.25 normal sulfuric acid, the curves representing pH values against cc. of acid all were found to have a marked break near the value pH 3.0. The method of treatment based on experiment is as follows: Portions of an average sample of an untreated lye are tested to find the correct proportion of aluminum sulfate. To a 100-cc. portion the correct proportion of standard aluminum sulfate solution is then added. This portion is titrated with 0.25 normal sulfuric acid to a pH of 2.8 and the volume noted. From this the amount of technical acid for each batch can be calculated. When the predetermined amounts of aluminum sulfate and sulfuric acid are added, the mixture is agitated and a sample taken. This is checked for a pH close to 2.8 and any readjustment made. When the batch is filtered an amount of sodium hydroxide solution, determined by electrometric titration on a sample of clear liquid, is added to the filtered batch to bring the pH to 8-8.5. This value is said to be the least corrosive to glycerine evaporators. Wm. J. Govan, Jr. *Oil & Soap* **17,** 108-9 (1940).

Borated Compound

Dispersing and washing agents are prepared by condensing one molecular proportion of an aliphatic or cycloaliphatic carboxylic acid having at least 12 carbon atoms, or of a similar ester, preferably at 200° C. or more, with half a molecular proportion of boric acid and two molecular proportions of a polyhydric alcohol. As an example, 298 parts of anhydrous ricinoleic acid are condensed with 184 parts of anhydrous glycerine and 31 parts of boric acid. Elsa Maria Jablonski. British Patent No. 511,473.

Unsaturated Alcohol Sulfates

Myristoleyl sulfate and palmitoleyl sulfate, and their sodium salts are produced from the corresponding alcohols and are suitable for use as surface-active agents and textile assistants. C. O. Henke and F. M. Schofield, to E. I. du Pont de Nemours & Co. U. S. Patent No. 2,199,403.

Phosphate-borate Detergent

A homogeneous stable alkaline detergent containing sodium borate and phosphate in solid solution is prepared by heating trisodium phosphate and borax in the presence of an amount of water sufficient to form a slurry. The proportion of borax varies from one-quarter to one-half of the solid constituents. Water is driven off until the water content of the mixture is reduced to 5-25 per cent. A stable solid solution is thus formed having an X-ray diffraction pattern with lines and spacings characteristic of an anhydrous sodium phosphate compound. Lloyd A. Hall, to the Griffith Laboratories, Inc. Canadian Patent No. 391,658.

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No. 2,213,588, Detergent, patented September 3, 1940, by Louis A. Mikeska, Westfield, N. J., assignor to Standard Oil Development Company. Sodium poly-alkyl phenol sulfonate in which the said alkyl groups each contain more than four carbon atoms.

No. 2,213,641, Cleaning Powder, patented September 3, 1940, by Urlyn C. Tainton, Baltimore, Maryland. A cleaning powder consisting of at least 30 per cent of synthetic alumina in the adsorbent form together with an adsorbent selected from the group consisting of synthetic zeolite, fuller's earth, diatomaceous earth, gelatinous silica and hydrous aluminium silicate in powdered form.

No. 2,213,772, Method of Plodding Soap, patented September 3, 1940, by Bruce Strain, Wyoming, Ohio, assignor to the Procter & Gamble Company, Cincinnati, Ohio. In the process of plodding milled soap to form a homogeneous bar, in which process the soap is deaerated under superatmospheric pressure, the steps of kneading the soap and forcing same toward an extrusion orifice against opposing superatmospheric deaerating pressure, and passing the soap through an unobstructed elongated welding zone in its path to the extrusion orifice, the said deaerating pressure being caused mainly by frictional resistance to the passage of the soap through said welding zone and being substantially greater than that required for extrusion alone, so that the flow of the soap from the kneading and forcing zone to and through the welding zone is without such obstruction as would divide the soap into filamentary parts having difficulty weldable surfaces which would result in cleavage planes in the extruded product.

No. 2,214,283, Polishing Composition, patented September 10, 1940, by Frederick A. Weihe, Jr., Detroit, Michigan, assignor to McAleer Manufacturing Company, Detroit, Michigan. A cleaning, polishing, and waxing composition forming a firm cake at normal temperatures and useful in treating enamel surfaces composed essentially of about 13 per cent wax and plasticizer, 65 per cent wax solvent, and 22 per cent of an abrasive-adsorbent.

No. 2,214,782, Insecticide, patented September 17, 1940, by Hans von Philipp, Leipzig, Germany, assignor to Fritz Schulz jun. Aktiengesellschaft, Leipzig, Germany. The process of increasing the effectiveness of insecticides which consist essentially of chlorinated hydrocarbon compounds selected from the group consisting of the mono- and di-chlorobenzenes, which comprises activating the said insecticides by adding a relatively small percentage of a chlorinated aliphatic compound selected from the group consisting of hexachlorethane, acetone chloroform, and chloral hydrate.

An insecticide which consists essentially of chlorinated hydrocarbon compounds selected from the group consisting of the mono- and di-chlorbenzenes and which contains, as an activating ingredient, a relatively small percentage of a chlorinated aliphatic compound selected from the group consisting of hexachlorethane, acetone chloroform, and chloral hydrate.

No. 2,215,539, Soap and Process, patented September 24, 1940, by John W. Bodman, Winchester, Mass., assignor to Lever Brothers Company, Cambridge, Mass. A process for making a floating soap with a uniformly aerated continuous mass having a dispersion of fine voids throughout and having a characteristic texture and firmness similar to milled soaps and shape-stability, comprising subjecting a soap mass having a moisture content of less than about 25 per cent to a temperature at which the mass is plastic or semi-fluid and continuous, aerating the continuous mass with a compatible gas, and forming the mass into bars or cakes. A process for producing an improved soap bar or cake having a characteristic texture and firmness similar to milled soaps and having in an aerated continuous mass microscopic cells or bubbles uniformly distributed throughout the soap mass sufficient to float the soap bar or cake, comprising subjecting a soap mass having a moisture content of from about 5 to 25 per cent in the presence of a compatible gas to intense working under pressure sufficient to increase the working action and prevent the escape of said gas from the mass, while subjecting said mass to a temperature at which the mass is plastic or semi-fluid and continuous, and forming said continuous mass into bars or cakes.

No. 2,215,603, Agricultural Insecticide, patented September 24, 1940, by Leo M. Christensen and Harry Miller, Atchison, Kansas, assignors to the Chemical Foundation, Incorporated. An insecticidal bait which comprises a bran mash in which is incorporated magnesium sulfate and calcium chloride, the amount of the calcium chloride being less than 10 per cent, of the dry ingredients of the composition.

No. 2,215,814, Radiator Cleaning Composition, patented September 24, 1940, by Ralph E. Hall, Mount Lebanon, Pa., assignor to Hall Laboratories, Inc., Pittsburgh, Pa. A method of cleaning automobile radiators which comprises treating the surfaces having ferruginous and calcareous deposits thereon with an aqueous solution containing effective amounts of an alkali - metal hexametaphosphate and a water-soluble alkali, whereby the deposits are dissolved without material injury to the treated surfaces.

No. 2,213,214, Insecticide, patented September 3, 1940, by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa. An insecticidal composition containing a phenyl benzyl ether having an organic acyl group as a substituent in at least one of the benzene rings.

No. 2,213,215, Insecticide, patented September 3, 1940, by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa. An insecticidal composition containing a phenyl benzyl ether having the formula,

$$R—Ch_2O—R—R^1$$

wherein the R^1s are aromatic hydrocarbon groups and R^1 is selected from the group consisting of aliphatic hydrocarbon groups containing at least two carbon atoms, alkoxy groups and cycloalkyl groups.

No. 2,213,216, Insecticide, patented September 3, 1940, by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa. An insecticidal composition containing a phenyl benzyl ether having a phenyl substituent containing a thiocyano group.

No. 2,213,217, Insecticide, patented September 3, 1940, by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Company, Philadel-

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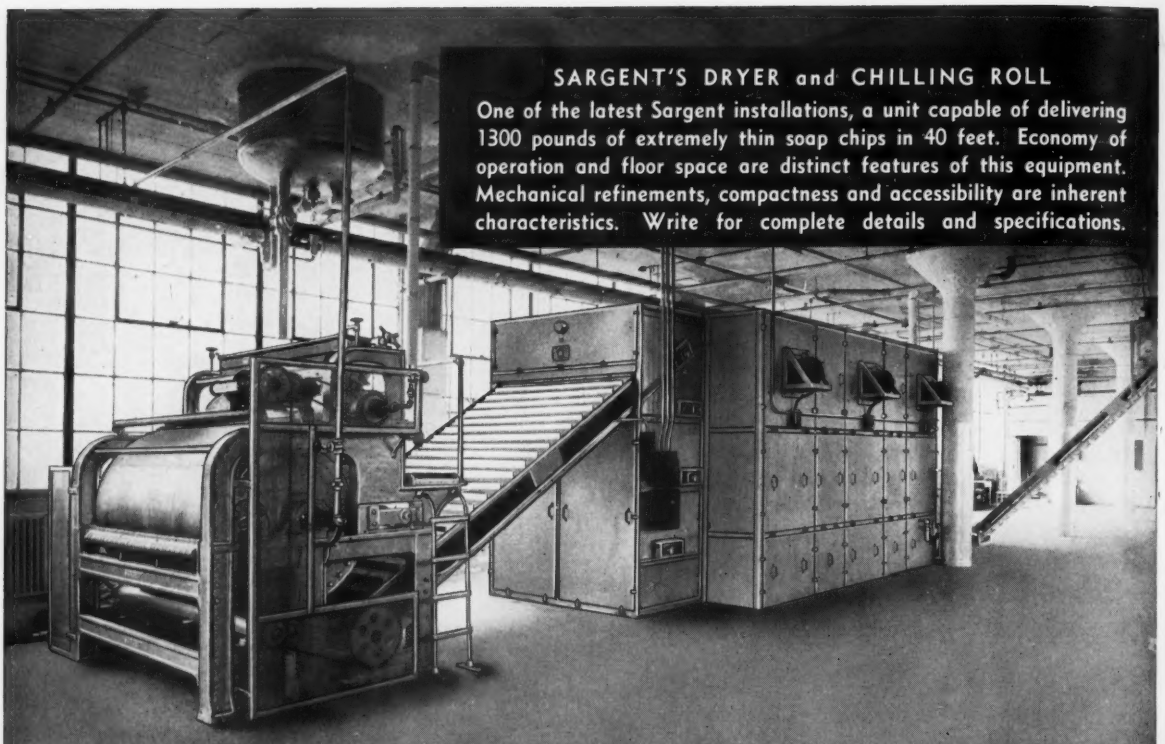

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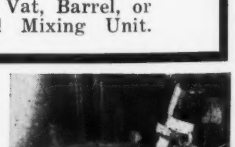


Portable, easily moved from one container to another and, readily adjustable to any desired angle. All "LIGHTNIN" Mixers (except Variable Speed Models) may be obtained with any type motor to fit any current characteristics. Choice of Stainless Steel or Monel Shafts and Propellers. Adjustable length shafts—by means of tube and chuck—just like a carpenter's drill. "LIGHTNIN" is the most complete line of propeller type mixers made. Send for complete literature, stating product to be mixed.

Write choice of types, sizes, and motors.

MIXING EQUIPMENT CO., Inc.
1051 GARSON AVENUE ROCHESTER, N. Y.

New Equipment

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

749—Portable Air Compressor

Fumeral Co., Racine, Wis., manufacturer of power sprayers and diffusers, has added to its line a new

portable air compressor, model PK-41, which can be operated directly from the electric light or power line or driven by a gasoline engine. The unit is designed for use in places where no steam or air pressure is available. It is said to be very compact and capable of operating a large portable diffuser at 75 pounds constant pressure, or two of these units at 45 pounds pressure each.

750—Dishwashing Regulator

Chemical Manufacturing & Distributing Co., Easton, Pa., manufacturers of soaps, detergents, sanitary chemicals, etc., for the trade are now manufacturing a new regulator for feeding dishwashing compound into the wash water in machines. Edward B. Lawler, formerly associated with B. T. Babbitt, Inc., New York, and Quaker Chemical Products Co., Conshohocken, Pa., invented the new regulator. The makers state the compound dispenser is unique in that it is placed on the bottom of the wash tank. Submerging the feeder is said to insure a uniform concentration of compound.

751—Automatic Cattle Sprayer

A new spraying device automatically operated by a photoelectric cell is being offered farmers for use in helping dairy cows spray themselves with cattle sprays. Entering the dairy barn, the cow breaks the beam of light from the "electric eye" which spans the open door. This starts a motor which forces four atomized jets of liquid upon her back, belly and legs. After milking "Bossy" takes another spray bath as she leaves for the pasture. The device is manufactured by Babson Bros. Co., Chicago. In connection with its sale they offer their own "Surge" cattle spray, a non petroleum-base product.

752—Brush Catalog

The Flour City Brush Company of Minneapolis, Minnesota has just published a new catalog showing a complete line of brushes and miscellaneous supplies for the janitor trade. Copies of this catalog are available upon request.

753—Household Pests

Boston Better Business Bureau is currently distributing a 16-page booklet "Facts You Should Know About Household Pests," which covers the principal varieties of common insect pests and recommendations for their control.

754—Suspending Power

The comparative suspending powers of a number of alkali solutions are demonstrated in the October issue of *Silicate P's & Q's*, publication of Philadelphia Quartz Co., Philadelphia. A series of photographs shows the comparative dirt suspending powers of various silicates and phosphates and caustic at concentrations varying from 0 to 1.0 per cent. The accompanying text gives an analysis of the results.

755—Foreign Commerce Weekly

The first issue of *Foreign Commerce Weekly*, publication of the Bureau of Foreign and Domestic Commerce, U. S. Dept. of Commerce, was distributed October 5. Covering the material formerly included in *Commerce Reports*, the purpose of the new weekly is to help stimulate foreign trade. Annual subscription: $4.50 domestic; $7.00 foreign.

756—Handling Liquid Chlorine

"How Liquid Chlorine Solutions Are Better Handled in Neoprene Hose" is the leading article in the latest issue of the *Pioneer*, house organ of Electro Bleaching Gas Co. and its affiliate, Niagara Alkali Co., both of New York. Other articles cover new developments in industry. Copies sent each month on request.

757—Magnus Skin-Gard

Magnus Chemical Co., Garwood, N. J., has just issued a new descriptive folder on its product, Mangus "Skin-Gard," a protective coating for the hands to guard against chemicals, solvents and dirt of all kinds. The product is said to come in two grades: regular and waterproof.

758—Unloading Tank Cars

Philadelphia Quartz Co., Philadelphia, has recently published information on the details of handling tank cars of silicates of soda. The bulletin "Unloading Tank Cars in Winter" contains directions and precautions to observe in thawing of the load and the use of steam coils.

759—Employer's Digest

The Wage and Hour division of the U. S. Department of Commerce has just announced that the 40-hour

SOAP MILLS OF LARGE PRODUCTION

Better See Them Mr. Manufacturer

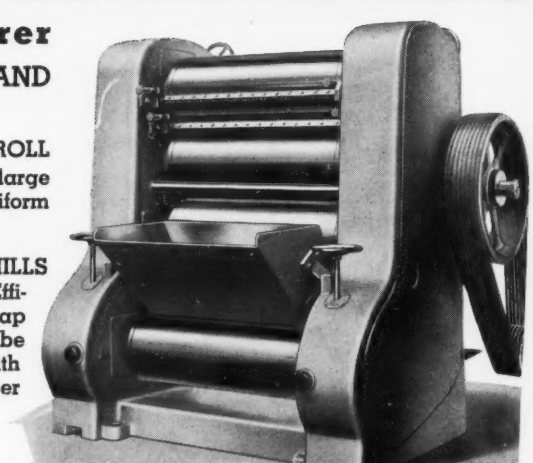
LEHMANN SOAP MILLS ARE DESIGNED AND BUILT TO DO MANY DIFFICULT JOBS.

SOAP FLAKE MILLING. The No. 912SA FIVE ROLL LEHMANN SOAP MILL (here illustrated) is a machine of large production and will give an exceptionally thin flake of uniform character and brilliant transparent appearance.

TOILET SOAP MILLING. LEHMANN FIVE ROLL MILLS can be arranged for automatic one operation milling. Efficient mixing and largest possible output of finest milled soap obtainable with this machine. The feed hopper can be arranged with two milling lanes. Can also be furnished with a built-in intermediate plodder. A large single-feed hopper may be substituted for the two milling arrangement on the small hopper illustrated.

STANDARD FEATURES. Chilled Iron Rolls of best quality electric furnace chilled iron efficiently cooled, 15¾" diameter by 41 milling length; oil flooded machine-cut helical steel and bronze gears for rolls and drive shaft, all running in dust-proof casings; roller shafts mounted in SKF self-aligning pendulum roller bearings, grease gun fittings provided throughout; scraper knife serrated or straight, as required.

DIRECT MOTOR DRIVE. In illustration the gear guard has been removed to show manner of driving directly from motor by means of V-belt drive. May be had in right hand or left hand drive, as desired.



• **LEHMANN NO. 924SA FOUR ROLL SOAP MILL** corresponds in detail and operating features to the No. 912SA Five Roll machine shown above. It is useful for pre-milling or operating in tandem with the five-roll machine.

J. M. LEHMANN COMPANY, INC.
250 WEST BROADWAY NEW YORK, N. Y.

LEHMANN
The Standard for Quality in Machinery Since 1834

INCREASED SPEED

In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog, that is yours for the asking.

PROCTOR & SCHWARTZ · INC · PHILADELPHIA

NEW PROCTOR *Flake Soap* SYSTEM

week edition of the *Employer's Digest* is now available. The pamphlet outlines the requirements of the Fair Labor Standards Act and contains latest information on the Wage and Hour Law and a listing of the eleven wage orders which have been issued to date.

760—Cockroach Bulletin

A 32-page bulletin entitled "The Biology of Six Species of Cockroaches Which Inhabit Buildings" has recently been published by the Agricultural Experiment Station of Purdue University, Lafayette, Ind. The life history and habits of each species are covered in detail. The authors: George E. Gould and H. O. Deay, both of the Purdue faculty.

761—Fair Trade & Drug Prices

"Fair Trade and the Retail Drug Store," a price study of fifty leading drug store proprietary items under minimum price contracts permitted by Fair Trade Laws, recently compiled by H. J. Ostlund and C. R. Vrickland and published by the Druggists' Research Bureau, is the report of a survey on the effects of Fair Trade on prices of trademarked items in drug stores such as tooth pastes, shaving creams, razor blades, shampoos, mouth washes, etc. Forty-four states are covered by the survey, each being studied separately.

762—Livestock Fly Sprays

A new bulletin, "Livestock Fly Sprays," Extension Folder 88, by H. H. Shepard, recently published by the U. S. Department of Agriculture in cooperation with the Agricultural Extension Service, University of Minnesota, covers the problems involved in the control of the housefly and stable fly on livestock and cattle. Practices to avoid and recommendations for control are included.

763—Moth Control Bulletin

The life histories of clothes moths and carpet beetles and the various methods for their control are covered in detail in Extension Folder 89 entitled "Clothes Moths and Carpet Beetles," by H. H. Shepard, recently published by the U. S. Department of Agriculture in cooperation with the Agricultural Extension Service, University of Minnesota. Low temperature storage, insecticides, storage of woolen goods, protection of furniture, protection of rugs and house fumigation, are subjects discussed in the folder.

764—New Federal Specifications

New U. S. specifications for trisodium-phosphate, technical (phosphate cleaner), O-T-671a, and sodium-metasilicate, pentahydrate, O-S-604, and an amendment to the specification for laundry soda, P-S-641a, have been approved by the director of procurement and are to become effective November 15, 1940. These specifications are available from the superintendent of documents, Washington, D. C., at 5 cents each.

Wettability of Fibers

A new technique for the determination of the wettability of textile fibers was carried out on wool yarn. The wettability figure obtained has been shown to be independent of the counts and twist. Plugs of yarn are formed by drawing a hank or bundle of yarns through a hole in a brass plate and cutting off on each side with a microtome knife. The time in seconds for penetration of air through this plug is measured under standard conditions, followed by measurement of the time for water to pass through. The apparatus needed and method of use are described. C. M. Blow and B. F. J. Moxon. *J. Soc. Chem. Ind.* **59,** 171-4 (1940).

Oil Refining Methods

The following methods have been found useful when efficient refining of oils was not obtained with the usual procedures. The following method was first applied to kapoc and walnut oils high in free fatty acids, and later was found to be adaptable to other oils, especially to those which gave a break only with difficulty: In the plant procedure about 4 per cent of 15° Be. lye was used for kapoc oil of 6.0 per cent F.F.A. The lye was added while rapidly agitating the oil at 80° F. For a 30,000 pound batch, 100 pounds of sodium silicate mixed with 50 pounds of water were added at once. Agitation was continued at 80° F. for one hour, after which the temperature was raised to 110° F. with slow agitation. From 5 to 8 per cent of cold water was sprayed on the surface while agitation was continued, until a good break was obtained, when the mixture was allowed to settle.

The following procedure, not yet applied beyond the laboratory stage, shows promise for neutralizing tallow and tallow oil. For an inedible tallow oil of F.F.A. 5.2 per cent, 3 per cent of 25° Be. soda-ash solution and 4 per cent of sodium silicate were used. The solutions were mixed and added to the cold oil with agitation. The mass was agitated slowly for 15 minutes and then heated to 60° C., and agitated for another 10 minutes. From 5 to 7 per cent of cold water was added with slow agitation. The mass was allowed to settle and showed a loss of 9 per cent of the oil. This method does not reduce color as much as the ordinary caustic-soda method. The procedure may need some modification to adapt it to a particular sample so that the foots settle well. R. G. Dressler. *Oil & Soap* **17,** 124 (1940).

Laundering Staple Rayon

The decrease in strength produced by the laundering of staple rayon fabrics is due to both mechanical and chemical causes. The weakening due to the latter can be determined by measuring the degree of polymerization before and after laundering by Staudinger's method; weakening due to mechanical causes is obtained by difference or by staining with neocarmine, which colors the unaffected portions red-violet and the mechanically weakened portions blue.

When there is no defect in the laundering technique, the weakening of staple rayon fabrics is intermediate between those of cotton and linen fabrics. Under the same conditions no difference was observed between laundering with chlorine and with oxygen. Stainless steel washing machines produce less deterioration than copper machines. Staple rayon fabrics are much more easily deteriorated

by faulty laundering methods than either cotton or linen fabrics. Edmund Walter. *Kunstseide und Zellwolle* **21,** 402-6; through Chem. Abs.

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Dry Cleaning Study

In a special bulletin a brief summary of the various textile fibers, weaves, dyes and finishes, and a discussion of the drycleaning process is given. A report is made of 937 damaged textile articles received from drycleaning plants for analysis. Of these 34.9 per cent were damaged during use, 4.5 per cent were damaged as a result of faulty drycleaning procedure, 59.6 per cent were the result of inherent faults in the fabrics or garments, and 1.0 per cent of the cases were not classified. The main categories of the cases involving articles of wearing apparel, given in order of decreasing frequency are, difficulties with dyes, holes and ruptures in fabric, spots and stains on garment, the surface of fabrics changed in appearance, shrinkage, stretching or distortion of garment, difficulties with accessories to garments, and peculiar complaints.

In a second section cases involving household fabrics such as curtains, drapery and upholstery fabrics and rugs are discussed. Pauline Beery Mack, Charles R. Phillips and Frank A. Weller. Penna. State College Bull., Home Econ. Research Series., Pub. No. **4,** 83 pp. (1940); through Chem. Abs.

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Amino Sulfonic Acids

Amino sulfonic and amino carboxylic acids which are substituted in an amino group, are obtained by causing a primary amino carboxylic or amino sulfonic acid to react with an aliphatic or cycloaliphatic aldehyde or ketone and reducing the product which results from this reaction. The reaction is carried out at ordinary temperatures in an aqueous solution or in a mixture of water with an organic solvent. The products have a resinous character and are used in the textile industry as wetting, detergent and dispersing agents. I. G. Farbenindustrie A.-G. French Patent No. 842,803.

Rendering Apparatus

An apparatus for removing fats and glue from materials such as bones, hide trimmings, fish, and for extracting oil from oil-bearing seeds includes a hollow chamber with a central passage, and a plurality of passages surrounding the central passage in a peripherally extending row. Means are provided for heating the passages externally. Mechanical means in the central passages force and circulate material through in one direction, and through the other passages to a position where the same material is again picked up and circulated through the central passage. Thomas K. Lowry, to Darling & Co. U. S. Patent No. 2,199,670.

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Crystallizing Solid Fats

An apparatus is described for refining oils to remove components having a melting point higher than the oil. The oil is quickly chilled to a temperature sufficient to form seed crystals of the components having the higher melting point, and quickly chilling the oil to a lower temperature which will be sufficient to cause the seed crystals to increase by accretion. Substantially all of the components of higher melting point are solidified and can then be separated from the oil. Carl Dedlow, to Swift & Co. U. S. Patent No. 2,200,982.

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Aluminate Catalyst

Various details are given for the preparation of a catalyst comprising copper aluminate and soda ash suitable for use in the hydrogenation of soybean oil and to promote other reactions. C. W. Lenth and R. N. Du Puis, to Association of Am. Soap and Glycerine Producers, Inc. U. S. Patent No. 2,201,235.

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Ozone for Bleaching Oils

Ozone is fast becoming an industrial manufacturing agent as well as a general sterilizing agent. Its efficiency lies in its great oxidizing power. Many oils, fats and waxes can be bleached and deodorized with ozone. Certain oils show little bleaching effect with ozone such as olive, peanut, palm kernel, and coconut oils; darker oils such as palm, whale and cottonseed show pronounced decolorization since the color material in these is more easily oxidized. When unsaturated fatty acids are present, ozonides are formed, which may be undesirable in subsequent processing and use. A. E. Williams. *Chem. Age* **43,** 131-3 (1940).

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Treating Tall Oil

A process of treating tall oil to separate the fatty acid components from the resin acid components involves esterifying the fatty acids with low-boiling alcohol such as methanol or ethyl alcohol and subsequently esterifying the resin acids with an alcohol of higher boiling point such as glycerine. Ernest Segessemann, to National Oil Products Co. U. S. Patent No. 2,199,653.

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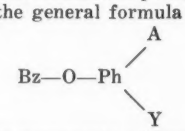
New Patents

(*From Page* 71)

phia, Pa. An insecticidal composition containing a dibenzyl ether of a dihydric phenol. An insecticidal composition containing a dibenzyl ether of a dihydroxy diphenyl compound in which the two phenyl groups are linked by a member of the class consisting of the sulfide, sulfoxide, sulfone, methylene and alkyl substituted methylene groups.

No. 2,213,218, Insecticide, patented September 3, 1940, by William F. Hester, Drexel Hill, Pa., assignor to Rohm & Haas Company, Philadelphia, Pa. An agricultural insecticidal composition suitable for use on living plants which contains a phenyl benzyl ether of the general formula



wherein Bz represents a benzyl group, Ph represents a phenyl mucleus, Y represents a member of the group consisting of hydrogen, aliphatic hydrocarbon groups, and nitro groups, and A represents a neutral substituent selected from the group consisting of salts, esters, and amides of the —COOH and —SO_3H groups.

No. 2,213,219, Insecticide, patented September 3, 1940, by William F. Hester, Drexel Hill, Pennsylvania, assignor to Rohm & Haas Company, Philadelphia, Pa. An insecticidal composition containing a phenyl benzyl ether, a phenyl group of which has an amino substituent selected from the group consisting of acyl amino, alkyl amino, and aralkyl amino groups.

Sanitary Products SECTION

A Section of "SOAP" dealing with

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

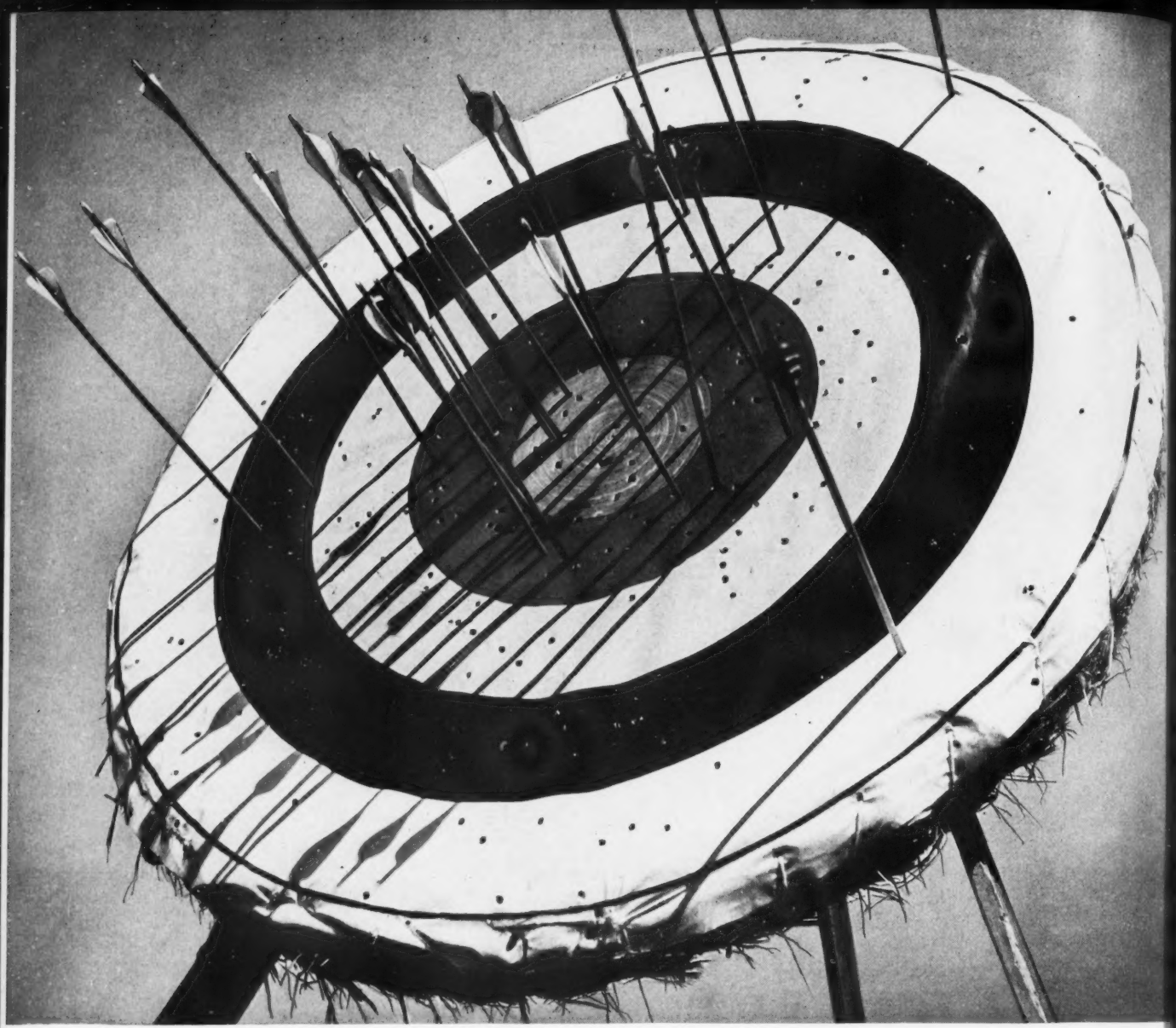
You Get More

FOR YOUR MONEY WITH

PYRIN

PYRIN does a better job on hard-to-kill insects
PYRIN has an agreeable odor—easy to perfume
PYRIN has higher toxicity content
PYRIN is non poisonous and SAFE
PYRIN gives you more spray at less cost

JOHN POWELL & CO., INC.
114 East 32nd Street, New York City.
"KILLING POWER—that's the thing!"



EXPERIENCE *vs.* TARGET PRACTICE!

EXPERIENCE has trained "NATIONAL" eyes and hands to *bunch their hits* around Container style . . to perfect their aim on Sales-by-the-Package. ★ EXPERIENCE replaces target practice in the "NATIONAL" way of practical designing, introducing novel display features and turning out a superior craftsmanship. ★ "NATIONAL" Container Service joins smart ideas with Experience in Packaging to speed Sales. "NATIONAL" EXPERIENCE *replaces* TARGET PRACTICE!

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Sales Offices and Plants • NEW YORK CITY • BALTIMORE • MASPETH, N. Y. • CHICAGO • BOSTON • DETROIT • HAMILTON, OHIO

Prepared To Kill?

WITH public attention focussed on killing and preparedness, and with 1941 just over the top of the next bomb shelter, it seems an appropriate time for insecticide manufacturers to check up on their individual preparedness programs. Is your insecticide prepared to do a thorough and dependable job of killing during the 1941 season? Is it prepared to do its job without any accompanying danger to defenseless fabrics and draperies? Are you prepared to concentrate on sales problems, with the assurance that manufacturing headaches have been eliminated in advance?

If you and your insecticide are not thoroughly prepared for the 1941 season, there is still time to get ready. Prove to yourself that Prentiss pyrethrum concentrate "dilutes clear" and "stays clear," giving the householder a finished insecticide which can be counted on for "careful killing."

R. J. Prentiss & Co., Inc.

New York **Chicago**

Cube **Pyrethrum** **Derris**

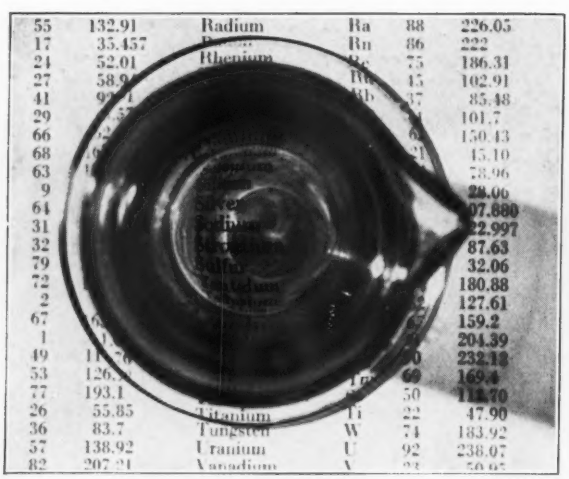
MAKE THIS *Startling test for*

How to make the *Test*

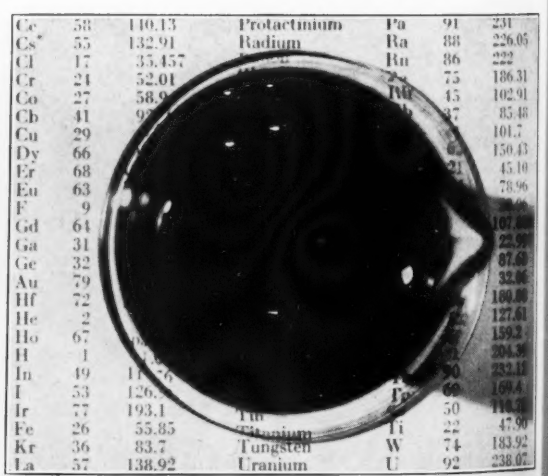
1 Measure out equal volumes, 12½ cc., of Pyrocide 20 and any other pyrethrum concentrate or combination pyrethrum substitute in clean graduates.

2 Put 250 cc. of deodorized base oil in two separate graduated cylinders. Add the concentrates to the base oil. Mix the two diluted solutions carefully and allow the air bubbles to settle out.

3 Place the two cylinders above any convenient ordinary size type matter. Then look THROUGH the two solutions—looking down from the top—and see if you can read the type!



SOLUTION OF PYROCIDE 20



SOLUTION OF OTHER CONCENTRATE

These amazing photographs—unretouched—show the result. On the left is Pyrocide 20—the type clear and sharp—easy to read! Picture on the right shows another pyrethrum concentrate in dilute solution. By actual test few concentrates on the market come even close to Pyrocide 20—and the difference in clarity becomes more apparent after the solutions are left standing an hour or two or over night. Clarified Pyrocide 20 is pure—it makes a truly clear solution. Your insecticides made with Pyrocide 20 contain no precipitate, won't clog the small apertures of the spraying device. Your product will be brilliantly clear—will not stain curtains or furniture when it is used by your customer!

Clarity!

PROVE TO YOURSELF

THAT THE WINNER IS

PYROCIDE 20

YES, the winner for clarity is Pyrocide 20, the original standardized concentrated extract of pyrethrum—just as Pyrocide 20 since it first came to market in 1929 has been the leader in the industry! Every standardized pyrethrum concentrate now on the market is an *imitation* of Pyrocide 20—why use anything less satisfactory?

The research work that made Pyrocide 20 first in the field is continuous. In 1937, it led to a clarification process that no one has yet duplicated. Pyrocide 20 is made by a patented process that cannot be used by any other manufacturer.

Pyrocide 20 kills quickly and surely. It not only is recognized as superior for ordinary household insects, but also kills the tough insects which pyrethrum substitutes often fail to control . . . it is the purest form of pyrethrins commercially available. Deodorized as well as clarified. Pyrocide 20 contains 2.5% pyrethrins by weight (Seil method), equivalent to 2.0 grams per 100 cc.

Today there is no reason for using a substitute since Pyrocide 20 is now much lower in price!

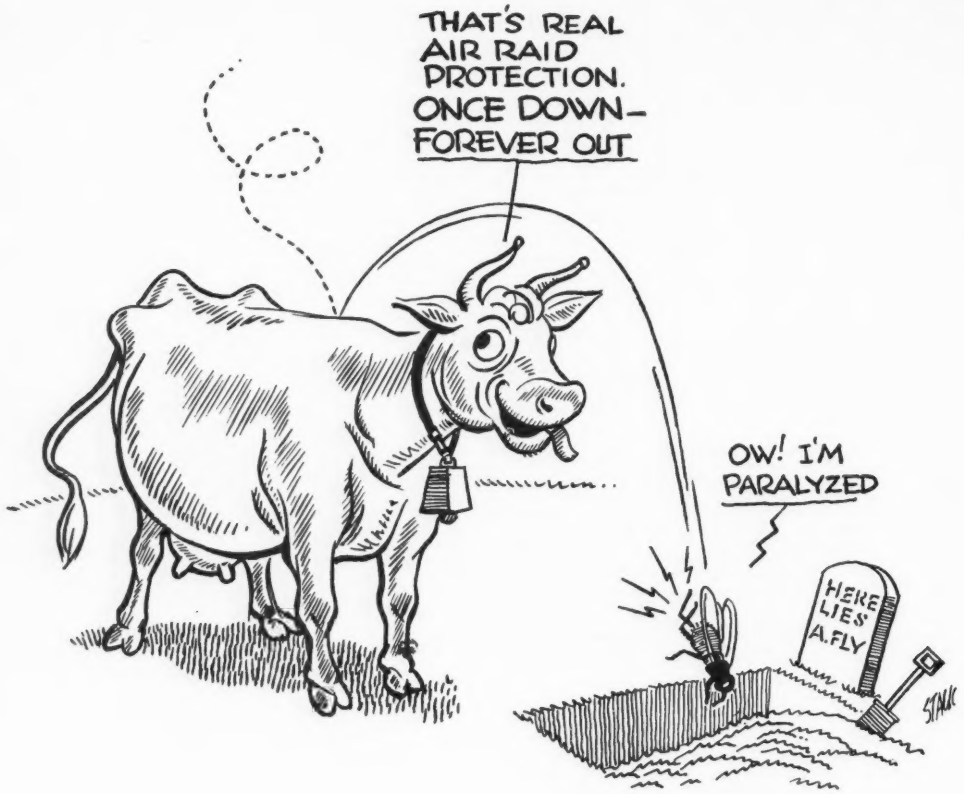
Write today for complete information—and new prices.

McLAUGHLIN GORMLEY KING COMPANY
Minneapolis, Minnesota

PYROCIDE 20

THE PUREST FORM OF PYRETHRINS COMMERCIALLY AVAILABLE

PRALYTEX DERRIS EXTRACT



for Making Livestock Sprays with High Repellency!

ALSO *KILLS* THROUGH LEG PARALYSIS!

For Crawling Insects: Pralytex produces phenomenal results when used in sprays for the control of bedbugs, roaches, millmoth and weevil.

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WHITMIRE RESEARCH CORPORATION

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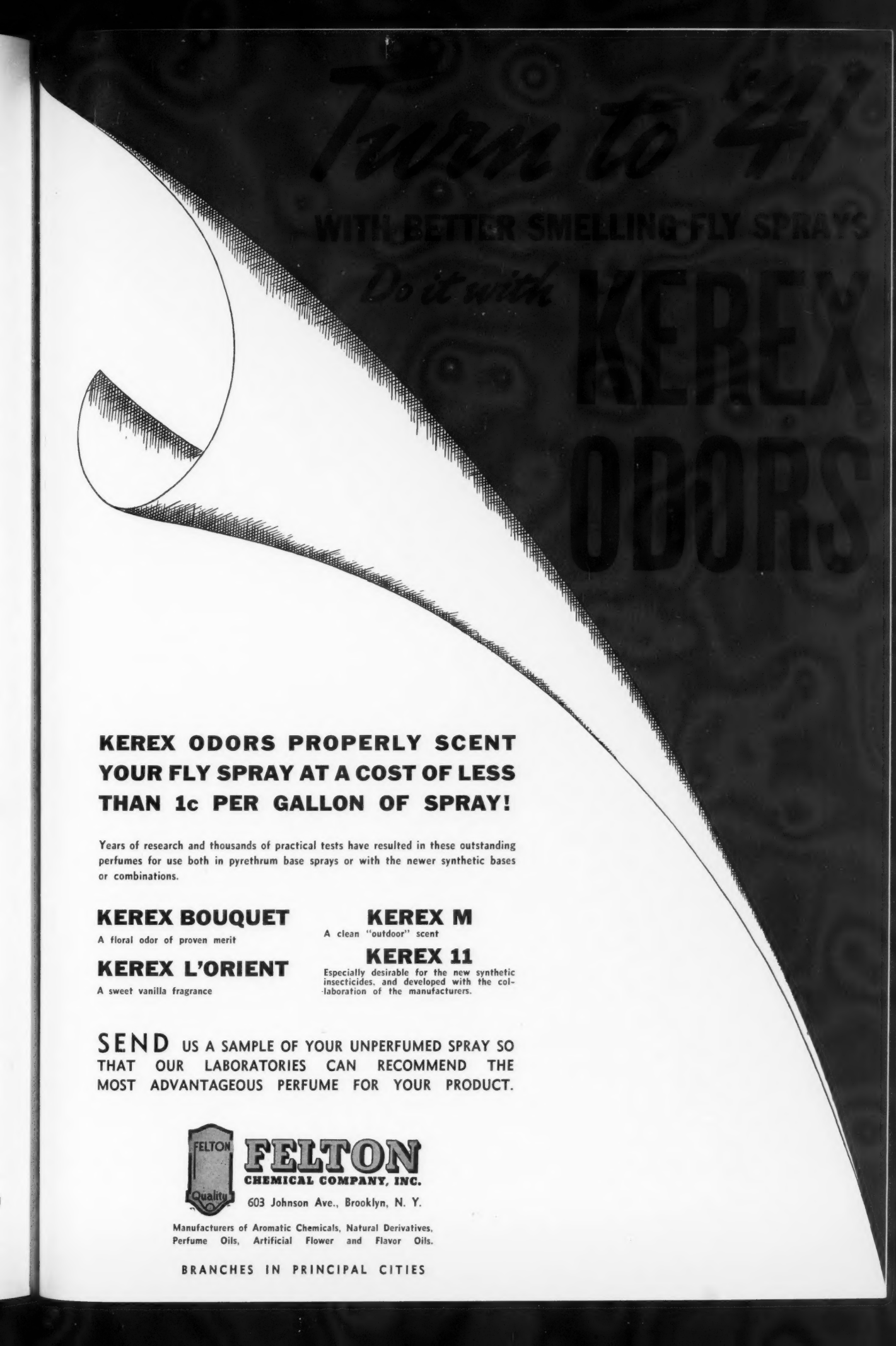
Our insecticidal chemicals are stocked in the East for prompt distribution in Eastern states and foreign countries by Dodge & Olcott Co., New York City.



KEREX ODORS PROPERLY SCENT YOUR FLY SPRAY AT A COST OF LESS THAN 1c PER GALLON OF SPRAY!

Years of research and thousands of practical tests have resulted in these outstanding perfumes for use both in pyrethrum base sprays or with the newer synthetic bases or combinations.

KEREX BOUQUET
A floral odor of proven merit

KEREX L'ORIENT
A sweet vanilla fragrance

KEREX M
A clean "outdoor" scent

KEREX 11
Especially desirable for the new synthetic insecticides, and developed with the collaboration of the manufacturers.

SEND US A SAMPLE OF YOUR UNPERFUMED SPRAY SO THAT OUR LABORATORIES CAN RECOMMEND THE MOST ADVANTAGEOUS PERFUME FOR YOUR PRODUCT.

FELTON Quality

FELTON
CHEMICAL COMPANY, INC.
603 Johnson Ave., Brooklyn, N. Y.

Manufacturers of Aromatic Chemicals, Natural Derivatives, Perfume Oils, Artificial Flower and Flavor Oils.

BRANCHES IN PRINCIPAL CITIES

RÖHM & HAAS COMPANY, INC.

ENABLES US TO GIVE YOU

PRICES

1940

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As the use of Lethane 384 and Lethane 384 Special has increased, savings in their cost of production have naturally followed. We are again pleased to give our customers the benefit of these savings by reducing the price of Lethane on November 1, 1940.

222 West Washington Sq., PHILADELPHIA, PA.

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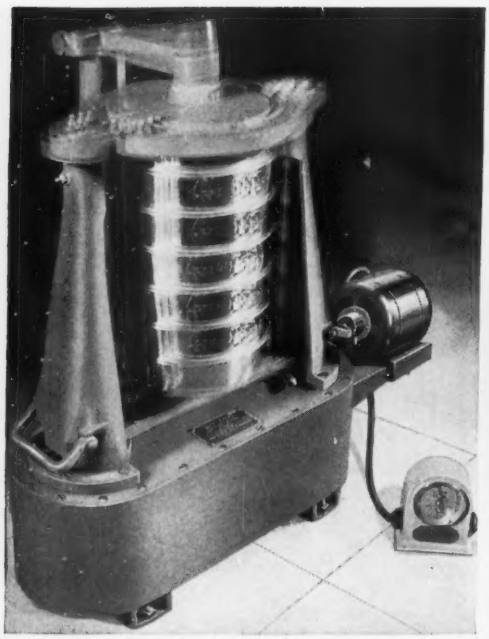


Shimmy Shaking Sieves!

They help portray McCormick Methods which assure you of Finer Pyrethrum and Derris Insecticides

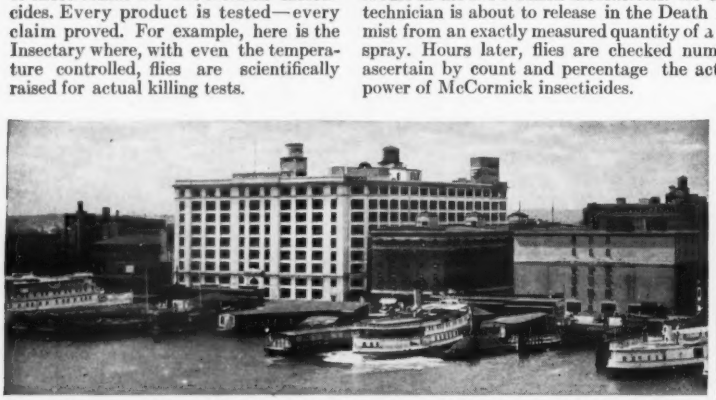
Nowhere in the world will you find Pyrethrum and Derris Powders which are ground finer than those produced by McCormick. Here, in action, is the Tyler Ro-Tap Testing Sieve Shaker which checks and tests with mathematical accuracy the fineness of every mill run of powder.

Exactitude in McCormick laboratory procedure is evidenced by the Chainomatic Scale which, used in chemical analysis, weighs rapidly to 4 decimal places! Accurate checks at every step, from raw materials to finished products, insure the uniformity and consistently high killing power of McCormick insecticides.

No Rule of Thumb guides the standards of effectiveness for McCormick insecticides. Every product is tested—every claim proved. For example, here is the Insectary where, with even the temperature controlled, flies are scientifically raised for actual killing tests.

Releasing Flies (left) in the "Peet Grady" Death House in the McCormick laboratories. At the right, a technician is about to release in the Death House the mist from an exactly measured quantity of a pyrethrum spray. Hours later, flies are checked numerically to ascertain by count and percentage the actual killing power of McCormick insecticides.

Finished Product ready to finish off insects! Because of their microscopic fineness, McCormick's Pyrethrum and Derris Powders contain a vastly higher number of killing particles to the ounce. Result: these particles stick more closely to insects, insuring a quicker, surer kill.



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Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

THAT many manufacturers of household insecticides are disturbed by the price outlook is apparent when the matter is discussed with them. They are looking forward to the 1941 fly spray season without a great deal of hope that the situation generally, and particularly the matter of prices, will show any material improvement. They point out that small local manufacturers have in numerous instances been selling liquid insecticide to industrial users in gallons and larger sizes at better prices than the nationally advertised brands are selling over the retail counter in pints and quarts.

Not all well-known brands of liquid insecticide are selling at the low prices about which there has been so much complaint. A number of them have dropped their prices slightly, but not to the low levels which characterized the market this past year. They state that they can make a profit at their present prices, but cannot do so if they drop to meet the lowest priced brands. And, they add, they intend to make a profit, or not sell insecticide! All of which makes us wonder just what the low level of prices of the past two years has done for those who have made them. They certainly have not made liquid insecticide a real profit item for the manufacturer. Then, just what have they accomplished? And what will they accomplish if continued through the 1941 season?

We may be all wet in our conception of insecticide merchandising, but we believe that there is a bottom price level for almost anything below which increased consumption of the product is not further encouraged by the price. We have a hunch that a good many of our biggest selling insecticides sold below that hypothetical point last year and the year before. As for us, we would much rather see a little more real profit in the business for the entire industry.

THAT soap is an effective all-around germicide, in fact the best germicide, continues to be stated regularly in the daily press. Only recently, we read in the "Farm News" of Spokane, Washington, that "good old soap makes a fine disinfectant" . . . and ". . . soap killed germs quickly." The authority in this case was none other than Dr. Ernest C. McCulloch of the State College of Washington.

Coming as they often do from persons in positions of authority and from those whose titles and degrees indicate a background of learning, such statements undoubtedly carry great weight in forming public opinion. Rarely are the germs mentioned by name or is the bacteriological basis for these pronouncements given. To the public, however, the reasoning is obvious,—if soap kills germs, why use a disinfectant or germicide?

We can imagine nothing more damaging to the public attitude toward disinfectants and germicides than the continued spread of this sort of information. Obviously the situation calls for a marshalling of bacteriological data by disinfectant manufacturers and a broadcasting of all the facts to the public if an effective answer is to be made.

What the farmer thinks about

LIVESTOCK SPRAYS

By Christopher A. Murray

WITH nothing to sell, with no axe to grind, a hundred farmers were interviewed by the author to find out how, when, and why they use stock sprays. This, we believe, is the first time that disinterested composite consumer opinions on various phases of this subject have been sought and obtained.—THE EDITORS.

NUMEROUS papers have been written in recent years on livestock sprays. These have been written primarily as the result of scientific work in experiment stations or commercial laboratories. They have dealt with questions concerning the need for livestock sprays, the study of their chemical composition and formulation, and reports of their application and efficiency under variously devised methods of test.

In view of the differences of results found and opinions expressed, it was thought that a worthwhile opinion on the value and use of livestock sprays might be had from the consumers themselves. A representative group of dairy farmers could be interviewed on their conception, use, and satisfaction concerning livestock sprays. In this way a record could be obtained that should indicate a general view of the consumer's ideas and experiences with these materials.

Accordingly, a questionnaire covering the essential points of livestock spray use was drawn up. Using this questionnaire as the basis for an interview, over 100 dairy farmers were personally questioned on their use, opinions, and satisfaction in their experience with these sprays. As well as answers being obtained for the questionnaire, notes were made in numerous instances on the reason for the answers. Without exception, the farmers were cordial, glad to cooperate in the interview, and in many cases, acute as to their personal observations.

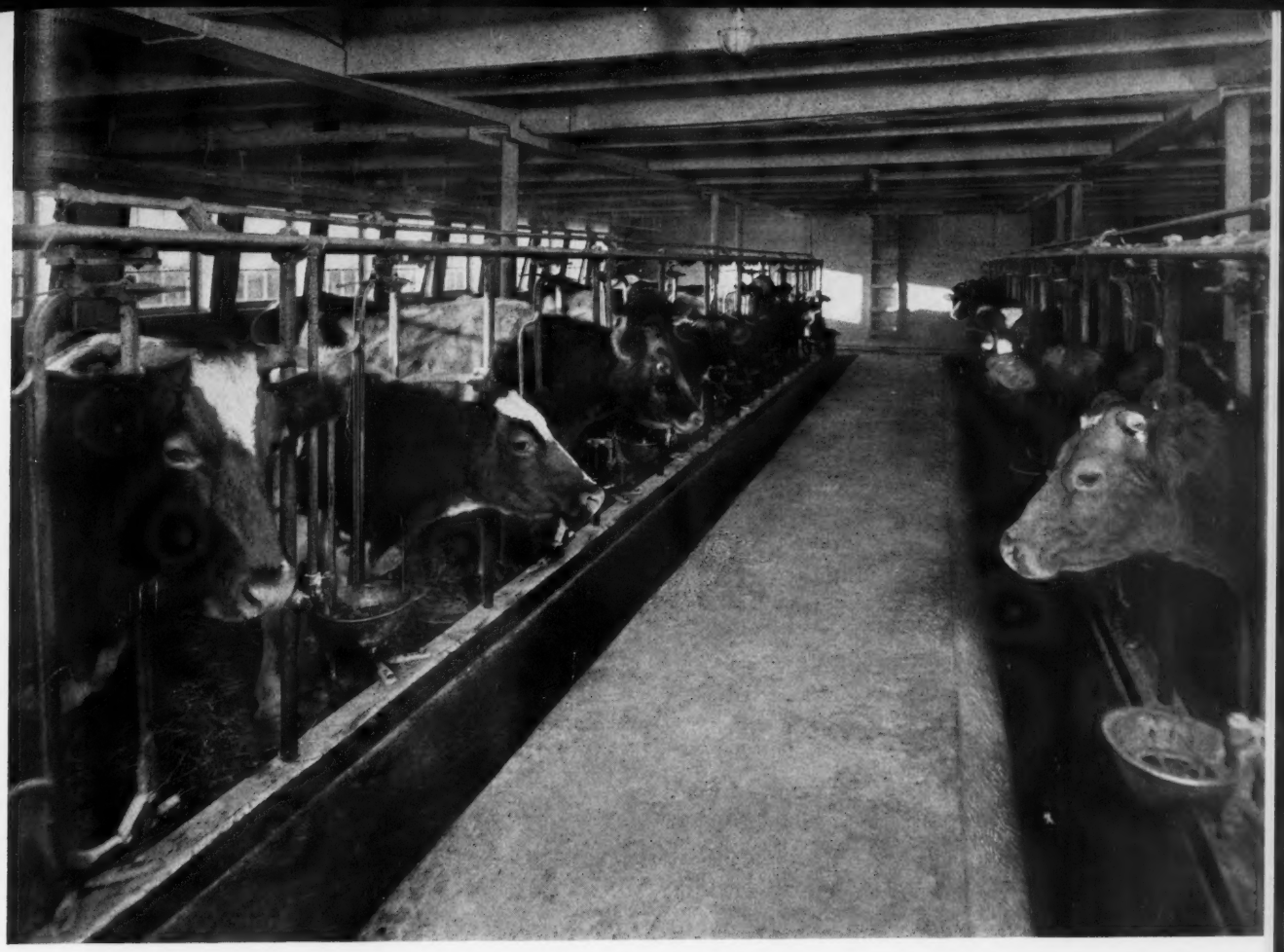
The interviews were made at the Minnesota state fair, on the farm, at dairies, and on Saturday night in town. Half the farmers were interviewed in Minnesota and the other half in Wisconsin. Thirty different counties are represented in the results and it is thought the wide scatter of answers is excellent indication of protection from bias that might have resulted from the influence of any particular spray. The results from Minnesota and Wisconsin are essentially the same, which is considered a further check on this possibility of error. Only farmers who use livestock sprays were interviewed because it was felt the survey should have most value if it concerned itself only with present users of the commercial article. This limitation presented little difficulty to the interviewer because ninety-eight per cent of the farmers approached used livestock spray.

The questionnaire submitted to the farmers, together with the affirmative answers in percentages, is given in Table I.

Ninety-two per cent of farmers interviewed use livestock spray to avoid insect annoyance to the herd while milking. Practically all of the dairy farmers use livestock spray to keep their animals protected while milking. The few who do not use the spray for this purpose have some other means of fly control in the barn, usually screens. The farmers are practically unanimous in their belief that their cows should be protected during the milking process. If a cow is comfortably eating while milking and is not disturbed, she will "let more milk down", she "can't be fighting flies all the time and still feed and make milk", "if she is continually bothered by insects during milking, she will dry up." These were repeated expressions of opinion.

It is rather common, in discussions of livestock spray use in the barn, to emphasize the dangers of germ contamination of milking utensils and milk from flies. While there is clearly added value in this cleanliness emphasis, it was indicated by questioning that the farmers are mainly interested in milk production and the comfort of their animals. The farmer can see the annoyance to his cows from insects. Since he has rid himself of flies for this primary purpose, the contamination of milk by insects is not noticed and appears somewhat problematical to him.

Fifty-one per cent of farmers interviewed use livestock spray so it will "carry over" and also avoid insect annoyance to the herd in the pasture. About half of the farmers



use their livestock spray to "carry over" from the morning milking and afford protection to their herd in the field. The main reason for this, of course, is to enable the cows to feed. If not protected, repeated observations were the animals will "go under trees for shade", "lie in the mud hole", or "stand in the wind" to avoid insects. If protection of this sort is not nearby, the animals will stand "switching and fly fighting" and neglect to feed properly. These farmers simply do not believe their animals can keep in good condition, feed regularly, and keep up milk production if bothered too much by insects.

Some of the current ideas of repellency stress the protection a herd has from insect-born cattle diseases and the possibly injurious effect of insect stings on the animals. These no doubt lie in the back of the farmer's mind. However, his main idea is the economic one,—he wishes his animals to be protected against insects so they can feed, stay healthy, and produce more milk.

The farmers who do not spray also for the purpose of protecting their herds in the field have evidently had experience with inferior livestock sprays. They are skeptical of the repellent properties of sprays and simply say, "it doesn't last." The majority of these stated that they would welcome a spray which they could depend upon. One or two said they had had a spray work very well one season, but the next the same brand did not. It is possible that the manufacturers of low grade sprays do not realize the importance of quality over cost when their product is one that is "tested" every day during the fly season.

Forty-four per cent of farmers use livestock spray to avoid cow switching and kicking and other bother while milking. About half the farmers admitted to some relief themselves from annoyance due to flies while milking. Several had a marked detestation for the nuisance of flies. They indicated impatience from the switching and kicking which interfered with milking. Some pointed out they could milk more quickly with their cows and the barn sprayed. These, however, seem to be secondary considerations for the farmers are all more primarily concerned with the animals' welfare and milk production than with their own comfort.

Eighty-seven per cent of farmers spray in the morning before milking. Fourteen per cent spray after milking before loosing herd. The majority of farmers spray their herd in the morning before milking. This is a habit with them. They believe there are enough flies usually present, even early in the morning, to warrant this procedure. Most farmers who wait until after milking have the previously mentioned other measures of insect control in the barn. Two farmers said they did not feel there were enough flies in the barn in the morning to spray before milking. It should be noted the farmers who spray after milking

do this entirely for the repellent protection their livestock spray will afford the cows later on in the pasture. One farmer sprayed at both times.

Ninety-four per cent of farmers spray in the evening before milking. Practically all of the farmers spray in the evening before milking, though the practice differs. Some spray both the barn and cows about three-quarters of an hour before milking; others wait until fifteen or twenty minutes before, and just spray the cows. This is evidently a matter of individual habit and practice. There are more insects on the cattle in the evening, which is the reason why slightly more farmers spray in the evening than do in the morning. Most of those with screened barns wish to get all the insects off of the animals before letting them in.

Eighty-five per cent of farmers spray regularly during the fly season. It is the general belief and practice that it is best to spray regularly during the fly season. This is a combination of routine and habit. It is also fortified with the observation that the animals get used to a certain procedure and like to have it followed through consistently. The farmers, who do not spray regularly are those who consider spraying is not essential unless there are a lot of flies about. The fact of the matter is, however, that once the fly season starts, there is usually an abundance until it ends. A very small minority of the farmers also are not as efficient and conscientious as the majority, and are apt not to follow through with a definite spraying program.

Farmers used 605.5 *gallons of spray per season for a total of* 1,554 *cows.* The number of gallons of spray used and the number of cows in the herd were asked so that some idea could be had of the quantity of spray per cow per season farmers consume. The farmers were asked to make only a rough guess, but it was found the majority had a fairly exact idea of the amount consumed.

Because it is felt that there might be some interest even in the limited figures obtained, the data are presented in Table II, together with the corresponding ratios of gallons per cow per season. In this table, the data is grouped according to the size of herd, with herd sizes one through nine cows, ten through twenty, and those over twenty. It is felt the averages are fairly indicative of typical use in this part of the country. The amount per cow per season used by farmers in Minnesota, .38 gallons, and the amount used in Wisconsin, .40 gallons, agree very closely.

It should be noted that the farmers with less than ten cows evidently exaggerated the amount of spray used, .49 gallons per cow, compared to .32 for herd sizes of ten through twenty, and .34 for herds over twenty. For all practical purposes, one might take one-third of a gallon of spray per cow as a season's average use.

If ninety days is assumed the normal fly season, as it can be in this part of the country, one may estimate the average use per cow per day as close to one-half ounce. Individual practice varies considerably, even if over-estimating is taken into account. This is indicated by an inspection of the individual ratios. All sorts of factors can enter into this picture, such as the notions of economy of the individual user, the number of flies present, and the efficiency of the spray used. Very likely a great deal depends also on the type of sprayer used.

However, the amount of spray used by farmers might well bear further investigation. The average use is about half the amount per cow (one to one and one-half ounces) usually recommended by manufacturers for repellency alone. It might well explain the preference of farmers for

TABLE I. Livestock Spray Questionnaire.

Affirmative answers indicated in percentages.

	Per Cent
A. Reasons for use. Do you use livestock spray?	
1. To avoid insect annoyance to your herd while milking	92
2. So it will carry over and also avoid insect annoyance to your herd in the pasture	51
3. To avoid the cows switching and kicking and other bother to yourself while milking	44
B. Manner of use. Do you spray your herd?	
1. In the morning before milking	87
2. In the morning after milking before loosing herd	14
3. In the evening before milking	94
4. Regularly during the fly season	85
C. Amount of use.	
1. About how many gallons of spray do you use for the season	605.5
2. How many cows do you have in your herd	1,554
D. Performance expected.	
1. Do you expect your livestock spray to knock down and kill flies if sprayed directly on them	97
2. Do you expect your livestock spray to repel and keep insects away from your animals	58
3. Do you think using your livestock spray increases the milk production of your herd	84
4. Do you think your cattle are in better physical condition because you use a livestock spray	79
5. Have you ever noticed any injury to any animal which you thought was due to spraying	14
6. Have you ever noticed any milk taint which you thought was due to spraying	3
E. Conception of a livestock spray.	
1. Do you have any idea of what there is in your livestock spray that repels or kills flies	22
2. Do you think the smell of your livestock spray aids in repelling insects	31
3. Do you think it might be compounds that have no odor	88
F. Preference for a particular brand. Did you buy your livestock spray because—	
1. A friend recommended the brand	7
2. Your local dealer recommended the brand	36
3. You found the brand advertised	5
4. Other reason (Tried several out)	51
G. Homemade livestock sprays.	
1. Within the past five years, have you made your own livestock spray according to your own formula or directions outlined in experiment station or government bulletins	18
2. If so, were you satisfied with the results	10

only the best sprays and no doubt is a major factor in their dissatisfaction with inferior brands, discussed later on. If farmers are generally inclined to use less than the recommended amounts, it behooves manufacturers to increase the potency of their products.

Ninety-seven per cent of farmers expect knockdown and kill in livestock sprays. Practically 100 per cent of the dairy farmers expect their livestock spray to knockdown and kill flies if sprayed directly on them. On the part of all those interviewed, there was an obvious desire for livestock sprays with striking knockdown action. They expect to see flies fall when they use their livestock spray. They also expect the flies to stay down. A number of farmers made the observation that many times flies recovered after being knocked down. This may be news to a number of livestock spray manufacturers, in particular those who have produced sprays with mostly repellency in mind. It will be a confirmation on the part of those who have consistently manufactured with knockdown, kill, and repellency *all* in mind.

The writer has, during five years insecticide testing, had the opportunity of examining many different livestock sprays under Peet-Grady test conditions. The knockdown of these has ranged from seventy per cent to above ninety-five per cent. The kills have ranged from what could be considered considerably below B to greater than AA. It is quite evident, if the expectations of the consumer are to be kept in mind, a considerable change should take place in the direction of improvement of the inferior sprays. It is indicated that any livestock spray should have at least the knockdown and kill of the Official Test Insecticide when tested under parallel conditions. Perhaps more efficient comparative knockdown test conditions than obtainable in the Peet-Grady method should be developed. There is also indicated a need for more attention to the base oil used, a major factor in knockdown performance, as well as kill. There is probably room for a good deal of improvement in sprayers that are used with livestock sprays. Studies should be made of the amounts contacting insects at different distances when various sprayers and types of oils are used.

Fifty-eight per cent of farmers expect repellency in livestock spray. About half the farmers expect repellency in addition to the primary knockdown and kill performance. On this particular question it was found early during the first few interviews that in the farmer's mind desired performance could not be divorced from what he had actually experienced. Hence the affirmative answers denote both a desire for repellency and satisfaction the farmer was getting it. There is no doubt, after one has talked to the farmers, that some sprays apparently have a desired degree of repellent action. The farmers affirm with unmistakable certainty that the sprays which they use keep flies away from their cows. Typical observations: "My cows aren't fighting flies all day," "Can eat more in the pasture," "stay out of the water hole," "feed better," "eat instead of chasing flies." Many use the livestock sprays on horses as well as cows because of satisfactory repellent action. Two exhibitors at the Minnesota state fair.

(*Turn to Page* 111)

TABLE II. Livestock Spray Consumption.

Gallons used per season according to size of herd with number of cows, and corresponding ratio of gallons per cow per season.

1—9 COWS			10—20 COWS						OVER 20 COWS					
Gal.	Cows	Ratic	Gal.	Cows	Ratio	Gal.	Cows	Ratio	Gal.	Cows	Ratio	Gal.	Cows	Ratio
½	1	.5	2	10	.2	5	13	.4	3	17	.2	10	22	.4
1	2	.5	2	10	.2	3	14	.2	6	17	.3	10	24	.4
2	2	1.0	3	10	.3	3	14	.2	10	17	.6	5	25	.2
3	3	1.0	3	10	.3	4	14	.3	2½	18	.1	5	30	.2
2	5	.5	4	10	.4	4	14	.3	4	18	.2	6	30	.2
4	4	1.0	5	10	.5	5	14	.4	4	18	.2	12	30	.4
4	4	1.0	5	10	.5	5	14	.4	7	18	.4	11	32	.3
1	7	.1	6	10	.6	7	14	.5	10	18	.5	15	35	.4
2	7	.3	8	10	.8	8	14	.6	4	19	.2	15	35	.5
2	7	.3	2	11	.2	5	15	.3	7	19	.3	10	40	.2
2	7	.3	3	11	.3	5	15	.3	12	19	.6	55	93	.5
5	7	.7	3	11	.3	5	15	.3	4	20	.2			
2	8	.2	4	11	.4	5	15	.3	5	20	.2			
2	8	.2	6	11	.6	9	15	.6	5	20	.3			
4	8	.5	6	11	.6	10	15	.7	6½	20	.3			
6	8	.7	15	11	1.3	10	15	.7	8	20	.4			
4	9	.4	3	12	.2	2	16	.1	10	20	.5			
6	9	.7	5	12	.4	3	16	.2	10	20	.5			
			5	12	.4	3	16	.2	10	20	.5			
			5	12	.4	4	16	.2	15	20	.6			
			6	12	.6	5	16	.3						
			7	12	.6	5	16	.3						
			7	12	.6	15	16	.3						
			8	12	.7	6	16	.4						
			10	12	.9	6	16	.4						
						11	16	.7						
Averages														
51½	105	.49				418	1053	.32				136	396	.34

What combination for ROACH POWDERS?

Part II

Analysis of trade opinion on effectiveness, speed of action, deterioration,—also costs and labeling

A MIXTURE of 75 per cent sodium fluoride and 25 per cent pyrethrum is the best all-around roach powder, that is if majority opinion among insecticide manufacturers and pest control operators is a true criterion. More than half of those who returned answered a questionnaire on roach powder composition recently sent out to the trade, expressed a preference for this combination. Next in line of choice for a roach powder was a mixture of the same two materials in equal parts, a 50-50 combination. Following came a whole list of suggestions naming in addition to the above in still other percentages, such materials as derris, other rotenone products, borax, boric acid, and various baits and fillers. One reply mentioned hellebore, but only one. The above general conclusions were based on the answers to the first question of the questionnaire which stated: "What in your opinion is the best all-around composition for a roach powder?"

Inasmuch as various purchasing agencies, both public and private, have from time to time approached this publication and the National Association of Insecticide & Disinfectant Manufacturers to inquire if there is any standard or specification for roach powder, the next question was asked more or less to sound out trade opinion in this direction. "Do you believe that a 50-50 pyrethrum-sodium fluoride powder might be adopted as an unofficial trade standard? Or some other combination?" This was the question and answers were about equally divided between "yes' and "no.' Quite a few replies stated "yes" although this was not the combination which they gave in Question No. 1. Apparently, they believed that if some combination were to be adopted as a standard, this simple mixture might as well be adopted as any.

One answer in stating the standard should be 75 per cent fluoride and 25 per cent pyrethrum, mentioned that this is the combination recommended by Dr. F. L. Campbell, entomologist of Ohio State University, as a specification for the State of Ohio. Others pointed out that any mixture should specify "freshly milled pyrethrum," or pyrethrum of 0.9 per cent pyrethrins, or "higher than 0.6 per cent pyrethrum." Several answered 'no" and suggested either straight sodium fluoride or mixtures of fluoride with inert dusts or baits up to 50 per cent. One reply stated that until powdered pyrethrum could be standardized, it should not be included in any specification for a standard insecticide. All in all, it may be concluded that a mixture of 75 per cent fluoride and 25 per cent high-grade pyrethrum would be satisfactory as a standard to at least half of the industry.

The third question had to do with objections to the 50-50 mixture. It stated: "What other combinations do you consider better because they are (a) more effective, (b) quicker acting, (c) safer, (d) cheaper? Answers to the first question stated mostly that a higher percentage of sodium fluoride, that is 75 or 80 per cent, is more effective and reduces the proportion of material in the roach powder which will deteriorate, thus prolonging the effective life of the product. In the case of (b), opinion was quite generally agreed that 50 per cent pyrethrum gave a quicker acting product than lesser amounts of pyrethrum, provided the material is of good grade, but others held that 25 per cent was sufficient pyrethrum for quick action. In the matter of safety, it was pointed out that if any appreciable quantity of fluoride were included, the product would be toxic and for practical considerations, there was no difference between 50, 75, or even 100 per cent sodium fluoride. If safety alone were to be considered, no fluoride should be used, it was held by some, and pyrethrum or rotenone products, possibly with borax, would form the basis of the most suitable powders. Question (d) having to do with cheapness, naturally pointed to fluoride as best meeting this requirement. Although derris or cube diluted five to one with clay or talc to give a finished powder of 0.7 to 0.9 rotenone can be manufactured at present for about five cents per pound, only one mention was made of this type combination, indicating that its use is limited.

The fourth question was: "Do you believe all insecticide manufacturers should put out two types of roach powder, poisonous and non-

poisonous? Do you believe this feasible?" The answer here is that two powders may be feasible, but are not necessary, if the majority of replies are considered. Most of those who replied stuck to their guns on either (1) pyrethrum-fluoride or (2) straight fluoride as the product to be put out alone. Several were emphatic for one product of non-poisonous character, straight pyrethrum. Most agreed that a division of advertising and sales efforts on two types of roach powder would not work out too well and that everything should be concentrated behind one product, the one which the manufacturer has found to be best for the purpose and in the manufacture of which he is most expert.

The next question, No. 5, had to do with warnings on labels of powders containing sodium fluoride. "If your product contains fluoride, do you warn on the label against use in places where food is packed, stored or processed?" With only two exceptions, manufacturers stated that they carried warnings on their labels stating that the product is poisonous and should be used with proper caution, plus the usual poison antidotes. A few warn against any use of the product around foods or kitchens, but the majority evidently hold that it is safe for use in such places if care is exercised and state that the poison warning is sufficient, leaving the places where it is to be used to the judgment of the user. Behind these answers, according to added comments, we sense that the more rigid warning is not fancied in many cases because it would undoubtedly tend to hurt sales, and that those who recommend a strict non-use of fluoride powders around kitchens and other places where foods are processed, are mostly those who market also a non-poisonous product or do not sell a fluoride powder. Naturally, it is always difficult to give a wholly unprejudiced answer where important self-interest is involved.

"What are the objections to use of straight pyrethrum as a roach powder? Of straight sodium fluoride?" This was Question No. 6, and the answers and comments would fill a book. Here all over again are many of the points discussed in the first part of this article last month.—pyrethrum deteriorates, loses its killing strength, is a quick paralyzer but not a good killer on roaches, varies widely in quality, is too expensive, etc. As for sodium fluoride the answers say it is too slow acting when used alone, does not bring the roaches out, does not knock them down, etc. Comment from one manufacturer brings out several interesting points and is quoted verbatim as follows:

"The disadvantage, we believe, of straight pyrethrum is that the pyrethrum flowers lose their toxic ingredients and deteriorate. Therefore after a length of time, they are materially less effective. There is no question about it but that pyrethrum has a definite paralyzing action on the legs of the insects and from tests that we have made it shows that the addition of as little as 5 or 10 per cent pyrethrum in a roach powder mixture has a tendency to paralyze their legs so that they don't run very far,—then the other ingredients insure the killing job.

"We believe that pyrethrum is slow in killing roaches when it is in powder form and it takes a great deal longer. Also for some unknown reason it appears that the straight pyrethrum products do not give as great a kill on tests that we have made as a mixture of pyrethrum and fluo-

ROACH POWDERS

The following summary of material costs, effectiveness, speed of action and deterioration of various roach powder combinations is based on approximate current market prices and answers to questionnaires received from the trade.

Combination *Per Cent*	*Material Cost Per Lb.*	*Effectiveness*	*Speed of Action*	*Deteriorates*
Sodium Fluoride ..... 75 Pyrethrum 25	12c	Excellent	Good	Moderately
Sodium Fluoride ..... 50 Pyrethrum 50	16c	Excellent	Fast	Yes
Sodium Fluoride	9c	Excellent	Fair	Yes
Pyrethrum 7	24c	Good	Fast	Yes
Pyrethrum ..... 75 Borax 25	19c	Good	Fast	Yes
Derris ..... 20 Inert Dust 80	6c	Good	Slow	Yes
Borax ..... 50 Cocoa ..... 10 Sugar 40	8c	Poor	Very Slow	No
Derris* ..... 20 Pyrethrum ..... 20 Inert Dust 60	10c	Good	Fair	No

*Combination covered by patent.

ride so we like the combination as it gives paralyzing and definite kill. Our objection to straight fluoride is that it is not quick enough acting. For some reason or another, we have a paradox again. If it comes to a question of straight fluoride we believe that straight pyrethrum is better than straight fluoride. Our tests have shown that straight fluoride has no attractive bait in it while the pyrethrum has some attraction to it and if you are testing straight pyrethrum against straight fluoride you will get a higher kill on the straight pyrethrum than you will on straight fluoride. We know that fluoride with sugar, etc. is quite satisfactory but we have long felt that a combination of fluoride-pyrethrum is a better combination in the entire procedure."

Rotenone in Roach Powders

NOW the discussion comes to derris, cube, and other rotenone materials in roach powder. The question was: "Do you believe that derris or cube have a place in roach powders? If so, in what percentage and mixed with what other ingredients?" Judging from the answers received, rotenone materials have not as yet found favor with manufacturers as ingredients of roach powders. With only four exceptions, the questionnaires reported no experience, but in some cases indicated experimental work now being carried on. This applied to both insecticide manufacturers and to pest control operators.

Inasmuch as pyrethrum-rotenone combinations are covered by patent as previously discussed, the answers to the last part of the question would not have meant a great deal had any been received. One comment in this respect, however, revealed some interesting and significant data. This stated: "We have a rotenone dust containing 0.75 per cent of rotenone and on this we have done quite a little experimental work. We have obtained excellent control of cockroaches. Several commercial people have used the product, including a large hotel, and have reported a good control. The fact that the material is not poisonous has been a definite advantage to the people who have used it, they have informed us."

Question No. 8 had to do with the use of tinted or white sodium fluoride. Three out of four replies stated that nile blue tinted fluoride was used, the balance of firms using white. Several answers gave the opinion that tinted fluoride only should be used in insecticides, that the difference in cost is negligible, and the added safety factor great. Some expressed a dislike for the resultant color (described as a dirty grey in one case) when tinted fluoride and pyrethrum were mixed, and held that the unsightly appearance of this powder around floors and baseboards tended to cut down its use. Inasmuch as some cities and states require that sodium fluoride be tinted, it was pointed out that for manufacturers doing an interstate business, the tinted material was practically compulsory. Many pest control operators still stick to white fluoride, contending that inasmuch as they apply it themselves and know what it is, there is no danger. At the same time, an unlabeled bag of white fluoride left behind by an operator for use by the occupant of the premises constitutes a dangerous procedure.

Borax Use Limited

IF the replies to Question No. 9 are a criterion, borax does not stand very high in the opinion of manufacturers or operators as a roach killer. In spite of the ruling of the Department of Agriculture that borax is active, several replies stated: "We have never considered borax an active ingredient." Others stated that they used it chiefly to dilute sodium fluoride and pyrethrum. One firm stated that they had to meet competition for a cheap roach powder and used borax for this reason only, but that their best brand was a fluoride-pyrethrum mixture.

Another manufacturer who stated that he did not consider borax an effective roach killer, added the comment: "Uncle Sam says it is an active ingredient in roach powders, so far be it from me to take serious issue with this gentleman in regard to its effectiveness against roaches." Apparently one of the main uses of borax has been to cut costs in pyrethrum powders which over the past two years have been selling at high prices. Two answers mentioned mixtures of pyrethrum and borax as non-poisonous powders, one 50 per cent borax and the other 20 per cent.

The final question in the questionnaire asked for any additional comment, and there was plenty of such comment. One firm commented that after experiments over twenty years with dozens of mixtures in practical exterminating work, they had found 80 per cent fluoride and 20 per cent pyrethrum to be the best all-around product. Another answer stated that the great majority of householders, and also exterminators, do not use enough powder in their operations and do not do a thorough job in spreading the powder in the proper places, leaving it here and there and hoping the roaches will find it. One answer complained strongly against the new pyrethrum labeling regulations stating: "We used to label our product 100 per cent active and termed it insect powder, but now we must reduce this active percentage to 0.5 per cent. The public and our customers will certainly believe that they are being robbed if they read these labels." (We wonder how long he has been using the term, "100 per cent active insect powder."—The Editor.)

Another manufacturer, a large one, stated that formerly they used a 50-50 mixture of pyrethrum and fluoride, but had so much trouble with the pyrethrum content deteriorating in storage, that they changed to a much higher percentage of fluoride, although they did not name the exact figure.

Another manufacturer stated that he has used powders with and without baits and is still uncertain which are to be preferred, and asks if there are any figures or research records on the subject. One firm points out that they have to compete with roach powders which sell as low as 19 cents per pound can to the consumer and to supply a really effec-

tive, fast-killing product at such a price is impossible.

Label Calculations

NOW the question of suggested labeling comes up, and also the matter of costs of various combinations. In the labeling of a roach powder sold in interstate commerce and subject to the Insecticide Act of 1910, the advice of the Department of Agriculture is as close to the last word on the subject as any manufacturer can secure. The Department has always shown a willingness to cooperate with manufacturers, to advise and instruct them, to aid them in avoiding conflict with the law. Any label suggestions given here are merely based on general knowledge and should under no conditions be considered for package use without further checking. For the sake of discussion, merely a few mixtures will be considered here.

Take the case of the proposed "unofficial standard" roach powder first. This contains 75 per cent sodium fluoride and 25 per cent pyrethrum. Commercial fluoride contains approximately 95 per cent NaF and 1 per cent of silicofluoride, and 4 per cent of chlorides, sulfates, etc. The fluoride and silicofluoride are active, the others inert. The pyrethrum is liable to be almost any grade of this material depending on source, age, price, etc. It may be a pure Kenya powder,—although this is very unlikely,—running 1.25 per cent pyrethrins, or it may be a high grade Japanese powder of 0.8 or 0.9 pyrethrins, or a low grade Japanese powder of 0.5 or 0.6 per cent pyrethrins. With the Mediterranean closed, nothing much in the way of Dalmatian powder is available on the American market now although there may be a few left-over lots around. These latter are liable to run as low as 0.3 per cent pyrethrins.

Most certainly, the roach powder manufacturer, if he is going to keep out of trouble with the Department of Agriculture, must have some idea of the pyrethrum powder he is buying,—at least, he must know if it is a low grade powder so that he can label the product safely under the law. (In combination with sodium fluoride, pyrethrum powder assaying lower than 0.5 per cent pyrethrins might be suitable to pack in a roach powder, but such a pyrethrum would definitely not be suitable for packaging as "insect powder." Although the Department of Agriculture has not made a definite ruling on this point as yet, they will very likely frown on any "insect powder" which runs this low when packed, and even lower after a few months on dealers' shelves.—The Editor.) Although it is now evident that pyrethrum powder millers will no longer supply a guaranteed 0.9 per cent product, the better grades of powder will run 0.7 and 0.8 per cent and are probably safe to use if they are to be calculated on the label on a basis of 0.5 per cent to allow for deterioration.

So for a 75-25 fluoride-pyrethrum "unofficial standard" mixture where the pyrethrum approximates a 0.7 per cent grade, the following label statement of ingredients is suggested as the simplest and easiest to figure:

Active Ingredients—	*Per Cent*
Sodium Fluoride	71.25
Sodium Silicofluoride	.75
Pyrethrins	.125
Inert Ingredients	27.875
	100

Or if preferred, this same combination of 75-25 fluoride-pyrethrum ingredients can be labeled detailing the *inert ingredients* and bulking the active ingredients, although this method appears to be considerably more complicated where a fluoride is used owing to the list of impurities which must be given. This form of labeling would be as follows:

	Per Cent	*Per Cent*
Active Ingredients		72.125
Inert Ingredients—		
Pyrethrum (other than pyrethrins)	24.875	
Sodium Chloride	0.43	
Sodium Sulfate	1.89	
Sodium Carbonate	0.25	
Sodium Bicarbonate	0.43	
Total Inert Ingredients		27.875
		100

In labeling any other combination of fluoride and pyrethrum, such as the 50-50 mixture and the 80-20 mixture, the same principle is followed basing calculations on these percentages.

Now, for example, take a couple of non-poisonous mixtures such as pyrethrum and borax, or derris and borax, or cube and talc. If in the first case, the mixture were three parts of pyrethrum and one of borax, the label would figure out on a basis of borax being 99.5 per cent pure sodium tetraborate plus water of crystallization, and the pyrethrum would be figured at 0.5 per cent pyrethrins, as follows:

Active Ingredients—	*Per Cent*
Pyrethrins	0.375
Borax	24.875
Inert Ingredients	74.750
	100

In the case of a hypothetical mixture of derris and borax, the derris could be based on a powder containing 5 per cent rotenone, and if it were a mixture of five parts of borax to one of derris, the label would figure as follows:

Active Ingredients—	*Per Cent*
Rotenone	0.833
Borax	82.916
Inert Ingredients	16.251
	100

For those manufacturers who like to show a high percentage of active ingredients on their labels, the above mixture might fill their needs, although it would unquestionably be a very slow killer.

Where derris and cube might be used alone as the active material with an inert filler such as clay or talc in the proportion of one part of 5 per cent cube to six parts of filler, the following style would be used:

Active Ingredients—	*Per Cent*
Rotenone	0.714
Inert Ingredients	99.286
	100

Of course, in the above, there is the same objection which manufacturers raise to stating the pyrethrins on a label, that is that it gives the impression to the consumer that the product is mostly all filler and very little killer. Incidentally, in figuring

(*Turn to Page* 111)

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A full season of widespread and highly successful commercial use has confirmed the supremacy of Pyressenol No. 20 Odorless in the manufacture of odorless household insecticides. Lower in cost than Pyrethrum No. 20, yet equally effective at the same dilutions, equally as harmless and pleasant to use, and with a special efficiency against roaches, Pyressenol No. 20 Odorless has also proved ideal for making semi-concentrates for use in vaporizers.

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Fractional Knock-Down On Flies

Report on further studies on fractional time count of knock-down in the Peet-Grady Test

By Dr. Harold G. Lederer

Lederer Bacteriological Laboratories

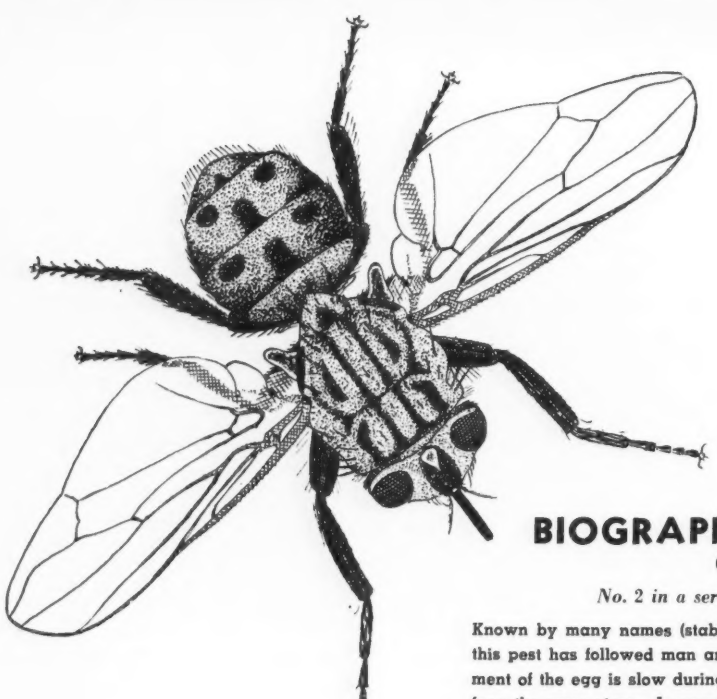
IN THE March, 1940 issue of *Soap and Sanitary Chemicals* the preliminary studies on the fractional time counts on knock-down in the Peet-Grady Chamber were published. Further studies have been made for determining its value to the insecticide industry. As many of us know, most insect sprays which have a rating of A or higher as classified according to the specifications of the National Association of Insecticide & Disinfectant Manufacturers have 100 per cent knock-down in 10 minutes. In order that we may determine the speed of knock-down of various insecticides, especially those that have 100 per cent knock-down in 10 minutes, we devised this fractional time count in order that we might attempt to correlate this knock-down with the subsequent kill. In making these studies we used 100 different formulae for insecticides. All these insecticides were submitted to us by various manufacturers either for the purpose of research or for evaluating their particular insecticide to be marketed. The kill of these insecticides varied from below *Minus B* to as high as grade AA (Plus 37). All the grading was determined with the use of the 1940 Official Test Insecticide.

There are several procedures that may be used to determine the knock-down, but the procedure which we now call the Lederer method in our laboratories is as follows: In making this test we use sheets of insecticide paper, the same as used in making the Peet-Grady test (we do not have paper rollers on the floor of our chamber). This paper is pieced together so that it measures 5 feet, 11½ inches square, in order that it will fit snugly in our chamber. The operator is in the chamber with enough sheets of paper to make the test. These sheets of paper are rolled in such a manner that at the signal of an outside operator he may hurriedly spread this paper on the floor. The flies used to make the test are placed in the chamber, the door closed as usual, and the insecticide sprayed in the chamber in the usual manner. All specifications as to the number of flies, type and pressure of atomizer, temperature, and relative humidity are according to official specifications for making the Peet-Grady determination. At the end of one minute, the operator inside the chamber is given the signal, and he places the first sheet of paper on the floor over the original sheet. At the intervals of one minute, or other pre-determined intervals, until the ten minute mark is reached, the same procedure is repeated. These series of papers are removed, and the number of flies, if any, that are still flying are noted. The flies at each interval are counted, noting the number of knock-down during each time interval. *It should be noted that the flies used in this testing are injured and cannot be used for the subsequent kill determination as prescribed by the Peet-Grady method.*

The routine procedure in our laboratory in doing the official Peet-Grady test is the Small Group Method averaging 100 flies per test. Therefore, in all our testing, only 100 flies (plus or minus ten) were admitted to the chamber at one time.

KNOCK DOWN TABLE

		Time in Minutes				*NAIDM Rating*
Sample No.	1	3	5	7	10	
1940 O.T.I. (Average of all tests)	11.4%	32.8%	63.2%	91.3%	94.6%	0
			(Rating of Less Than B)			
1	3	17	31	54	73	—14
2	14	27	46	62	81	—14
3	17	31	55	72	91	—13
4	4	19	32	47	68	—12
5	22	37	52	65	84	—11
6	7	19	31	55	78	—11
7	2	7	28	32	58	—10
8	11	26	54	78	83	—10
9	9	31	52	67	79	—10
10	3	19	47	58	67	—9
11	4	22	36	64	81	—8
12	24	42	59	72	90	—8
13	27	44	61	73	87	—7
14	5	18	42	67	84	—7
15	17	32	49	57	78	—6
16	27	52	67	81	82	—6
			(Rating of B)			
17	14	36	62	85	93	—5
18	9	27	48	67	78	—5
19	11	42	57	72	84	—4
20	22	56	67	92	96	—4
21	7	26	39	48	68	—4



BIOGRAPHY OF THE CATTLE FLY

(Stomoxys calcitrans L)

No. 2 in a series of sketches on troublesome pests

Known by many names (stable fly, stock fly, wild fly, straw fly, biting house fly) this pest has followed man and his domestic animals all over the world. Development of the egg is slow during the winter but in the spring they emerge full grown from the pupa stage. In warmer weather they breed in manure and straw stacks. They resemble the house fly, but have a slightly broader body. Equipped with an apparatus that first pricks the skin, they suck the blood. A grave source of annoyance to live stock, the cattle fly may even weaken them to such an extent that resistance to disease is lowered. Also mechanical carriers of disease, study has proven that several serious conditions may be transmitted through them.

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PYREFUME, the "perfected pyrethrum concentrate", is death to cattle flies when diluted as recommended. It also has tremendous "knock-down and kill" action against other flies, mosquitoes, bed bugs, silverfish, etc. Yet, it is relatively non-toxic to animals.

PYREFUME meets all standards of performance with power to spare. Its pyrethrins content is guaranteed through constant laboratory control. Freshly milled flowers plus the addition of a special anti-oxidant insures stability. PYREFUME blends clearly with usual oil bases . . . stays clear as all sediment has been removed. It is likewise stainless and free from unpleasant odor.

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In this experimental work many of the formulae of the insecticides tested were unknown to us, but we have reason to believe that the toxic ingredient included either separately, or in combination, pyrethrum, nationally advertised pyrethrum concentrates, aliphatic thiocyanates (Lethane), derris, rotenone, specially prepared combinations of derris and rotenone, under various trade names, cube, and several lesser known toxic ingredients. The accompanying table shows knock-down at intervals of 1, 3, 5, 7, and 10 minutes along with figures on knock-down of the 1940 Official Test Insecticide.

You will note from the table that we have covered practically all types of insecticides on the market, from those with low efficiency to those which may be classed as semi-concentrates. Every manufacturer of insecticides should find the rating of his insecticide in one of these groups.

Also in going over these figures, it should be noted that it is impossible to correlate the dead after 24 hour figures with the knock-down figures with the possibility of one exception. In general classification of these insecticides, we find that with the gradual increase in kill, we have a gradual increase of per cent knock-down at any given time, which might be expected. In considering this classification we like to consider insecticides in terms of grade rather than plus and minus figures as compared with the Official Test Insecticide. You will also note that many insecticides that have kills of 10 or even 15 per cent greater than other sprays, have a fractional knock-down of considerably less. For instance, if you will compare sample No. 29 which is a B (Plus 4) insecticide, it has a faster knock-down than that of sample No. 80 which has a rating of AA (Plus 21). Again, in analyzing these figures, you will note this wide variation through almost any grade, and the difference in knock-down in any one particular grade at times varies as high as 50 per cent.

In conclusion, we believe that when an insecticide is being formu-

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			(Rating of B)—Contd.			
22	11	29	46	59	77	—3
23	28	42	51	71	93	—1
24	31	55	68	83	97	0
25	18	41	63	77	91	0
26	4	22	39	51	64	+1
27	16	31	45	62	78	+2
28	9	42	55	79	93	+2
29	43	67	79	97	100	+4
30	16	39	62	80	86	+5
31	26	53	67	76	89	+5
32	15	39	57	79	97	+5
			(Rating of A)			
33	23	51	73	94	100	+6
34	16	37	55	78	91	+6
35	31	49	75	86	94	+7
36	15	57	76	92	100	+7
37	3	26	48	58	72	+7
38	22	46	64	90	98	+8
39	37	55	78	84	99	+9
40	32	61	72	88	100	+9
41	15	44	70	94	100	+9
42	39	61	93	100	100	+9
43	21	37	55	68	98	+10
44	27	40	68	97	100	+10
45	36	55	72	93	100	+11
46	41	67	100	100	100	+11
47	28	74	89	100	100	+11
48	16	42	58	69	88	+12
49	32	60	78	94	100	+12
50	23	49	71	82	94	+12
51	19	55	77	89	100	+13
52	34	51	86	100	100	+13
53	37	63	88	98	100	+14
54	21	42	69	84	99	+14
55	45	87	100	100	100	+14
56	16	39	58	87	98	+14
57	21	43	62	91	100	+14
58	27	62	96	100	100	+15
59	32	49	74	92	100	+15
60	36	56	80	99	100	+15
61	41	60	88	100	100	+15
62	22	46	52	78	97	+15
63	33	52	74	97	100	+15
64	56	72	100	100	100	+15
			(Rating of AA—plus 16 to plus 25)			
65	37	59	96	100	100	+16
66	29	48	85	99	100	+16
67	38	72	100	100	100	+16
68	46	67	100	100	100	+17
69	29	57	87	94	100	+17
70	31	61	94	100	100	+17
71	22	55	82	93	98	+18
72	33	64	96	100	100	+18
73	46	78	94	100	100	+18
74	32	55	87	98	100	+18
75	51	73	96	100	100	+19
76	36	64	100	100	100	+19
77	22	58	82	94	99	+19
78	43	62	91	99	100	+20
79	18	59	92	100	100	+20
80	24	47	78	92	98	+21
81	35	60	88	98	100	+21
82	48	81	100	100	100	+21
83	41	77	94	100	100	+22
84	54	87	100	100	100	+23
85	44	83	100	100	100	+23
86	32	67	82	99	100	+23
87	52	90	100	100	100	+24
88	38	76	100	100	100	+24
89	32	80	96	100	100	+25
90	44	76	100	100	100	+25
			(Rating of AA—over plus 25)			
91	52	89	100	100	100	+27
92	45	91	99	100	100	+28
93	38	67	92	100	100	+28
94	27	57	84	99	100	+29
95	42	71	98	100	100	+31
96	39	82	100	100	100	+32
97	61	100	100	100	100	+33
98	34	68	91	98	100	+34
99	52	77	100	100	100	+34
100	58	100	100	100	100	+37

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Cedar Rose S #2	1.75	Pine S #105	2.50
Honeysuckle S	3.50	" S #150	1.75
" S #200	2.00	Rose S #175	1.75
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" S #250	2.50	Violet S	2.50

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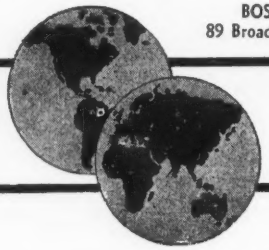

INSECTICIDE RESEARCH

A brief summary of a few things which experiment stations and others have found out during the past year

ENTOMOLOGISTS, chemists and others working at various state agricultural colleges and elsewhere have made many substantial contributions to the general fund of knowledge of agricultural insecticides and general insect control as a result of research conducted over the past year, and still going on. Progress reports embodied in annual reports of numerous state experiment stations released during recent months are too voluminous to be discussed in detail. However, a brief summary of a few of the outstanding accomplishments may be found of interest in the insecticide industry.

At the Wisconsin College of Agriculture, Madison, Wis., T. C. Allen and T. L. Carpenter, working under a Sinclair Refining Co. Industrial Fellowship, sought to determine whether highly refined petroleum oil distillates, such as are used in household sprays, can be used also as truck crop insecticides without serious danger of injuring plants. The evidence, so far, they reported "indicates that oil sprays, if properly compounded and applied, can be used safely."

In field trials there was no injury to cabbage, tomato and potato plants sprayed four times at weekly intervals, with 1.5 milligrams of undiluted oil per square inch of leaf surface. In one greenhouse trial an accumulative stunting effect appeared on tomato and cabbage plants given three or more oil sprays.

Viscosity of the oil is an important factor helping to determine whether it will injure plants, the investigations indicated. Oil with a kinematic viscosity of about 1.7 centistokes was most suitable, while oils with a viscosity of 1.320 and 1.526 caused most injury of those tested, "even though these light oils are very volatile and consequently do not remain long on plants."

"The fact that they have a low surface tension, possibly allowing them to enter the stomata of plants, may account for this injury," says the report. "On the other hand, oils with a viscosity of 2.016 and 2.290 centistokes penetrate the leaf tissue less readily, but the fact that they remain on foliage longer enables them to penetrate to some extent and cause injury."

Summarizing, the report says: "Results in 1939, bearing out those of 1938, indicate these conclusions:

"1. Distillates of midcontinent base crude oil are more toxic to plant foliage than Pennsylvania paraffin base fractions.

"2. Distillates of midcontinent crudes apparently must be given a higher degree of sulfonation than paraffin base crudes if they are to be satisfactory for use on plants. The former need to be treated with 130 lbs. of fuming acid per bbl., whereas 100 pounds is enough with paraffin base oils.

"3. Either midcontinent or Pennsylvania distillates can be used safely as an undiluted plant spray at the rate of 5 milligrams per square inch of leaf surface, provided each has been given the optimum degree of sulfonation and has a kinematic viscosity of about 1.7 centistokes at 100° F."

In the famous Door County cherry country of northern Wisconsin, J. H. Lilly investigated certain dormant sprays designed to control cherry case bearers and aphids on apple trees. His findings are summarized as follows:

"The most promising spray tested was Elgetol, a new proprietary material containing as its toxicant a yellow dye. When used at 1 per cent concentration, this insecticide gave excellent control. However, since Elgetol has never before been tried under Wisconsin conditions, its value should not yet be considered established.

"Dowspray Dormant, an oil containing 4 per cent by weight of dinitro-ortho-cyclo-hexyl-phenol, gave good results when used at 2 per cent. Controlled aphids satisfactorily but was little less effective than Elgetol against the case bearer. Dowsprays containing 1 per cent and 2 per cent toxicant also were helpful but not as good as standard Dowspray Dormant.

"Three different Fusion Mix formulas gave results comparable to Dowspray Dormant. These are powders containing dinitro-ortho-cyclo-hexyl-phenol, designed for use with low concentrations of dormant oil emulsions. If they prove consistently effective, they should have considerable value, for they have the advantage that they can be used with whatever oil is best adapted or most readily available in the locality."

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AT THE Delaware experiment station, Newark, Del., completion of a three-year investigation with rosin residue emulsion led to the conclusion that it is "both a safe and an effective sticker for lead arsenate in horticultural sprays." "This product," says the report, "improves the efficiency of such sprays by producing a more even coverage and by increasing arsenical adherence. It does not result in discoloration of or injury to foliage or fruit. Results with this material compare quite favorably with menhaden fish oil and certain commercial stickers, now recommended in the spraying program of Delaware and other states."

This Delaware project was conducted under the Naval Stores Research Fellowship financed by Hercules Powder Co., who have extended their agreement with the college another year to permit investigation of certain synthetics as fly sprays. Explaining the nature of this latter investigation, the report says that previous work had shown that pine oil increases the toxicity and repellence of pyrethrum extracts in relation to the amount added. Somewhat similar results were secured for pine oil-derris combinations, leading to the conclusion that pine oil could be safely and economically employed in practical cattle spray formulae.

"Subsequently, when attempts were made to introduce pine oil as an ingredient in liquid insecticides used as industrial, exterminating or household spray," continues this report, "it was found that although some manufacturers preferred the characteristic odor imparted to the spray by pine oil, in the majority of cases the concentrations necessary to give the desired activations produced an odor which could not be satisfactorily masked."

Terpene ethers were apparently the most promising group of compounds for enhancing the value of pyrethrum and rotenone in fly sprays without the odors associated with pine oil. (Bulletin 217, covering this subject in detail, was published in March, 1939.)

Glycol ether of pinene, the most efficient of the various synthetic terpene ethers investigated, was found to be relatively toxic to flies and also an effective activator for pyrethrum and rotenone in household sprays and the report states: "It can therefore be safely and economically included in commercial fly sprays."

Working with the Tobacco By-Products Co., Richmond, Va., the Delaware scientists investigated the inter-relation of various copper sprays with lead arsenate-lime and with fixed nicotines. "Results were very clear cut," says the report, which summarizes as follows:

"1. None of the copper fungicides may be used safely with fixed nicotine and oil without lime. Lime 'safens' the coppers but releases the nicotine almost immediately.

"2. Fixed nicotines greatly increase the solubility of the insoluble coppers.

"3. All copper sprays increased the release of nicotine over its release in regular fixed nicotine-oil sprays or straight fixed nicotine sprays.

"4. Sprays with very high pH values (above 9) release nicotine quite rapidly.

"5. All the insoluble copper sprays tested with lead arsenate and lime were inferior to Bordeaux mixture for control of arsenical injury. A few of them were commercially satisfactory in this connection. They were in the order named: Oxo-Bordeaux, Cupro K, Copper Hydro and Compound A.

"6. All insoluble coppers, excepting copper phosphate-lime-Bentonite, stuck very poorly to apple fruit and leaves. In the lead and lime series insoluble copper residues were from 1/6 to 1/3 those of Bordeaux mixture. In the nicotine-oil series the residues of the insoluble coppers were consistently higher. This may have been a function of either the oil or the Bentonite in the fixed nicotine. In the lead and lime series the insoluble coppers also materially reduced the lead-arsenate residue.

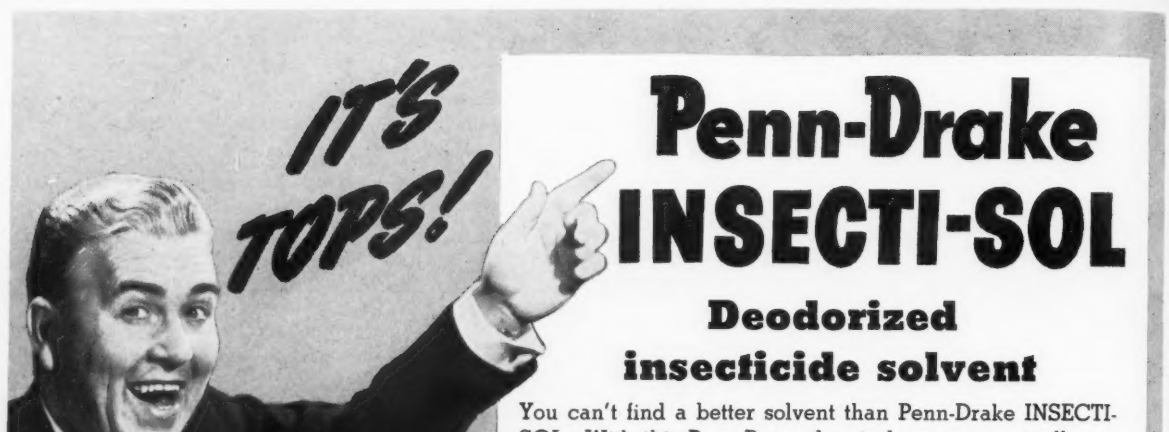
"7. Without exception the insoluble coppers used with lead arsenate and lime caused much less fruit injury and copper leaf burn than Bordeaux mixture. Of all the points under consideration, this was the only one in favor of insoluble coppers; however, the importance of this point in some situation should not be overlooked."

CODDLING moth investigations at New Mexico College of Agriculture, State College, N. M., included insecticide tests involving comparison of split schedules of lead arsenate, cryolite, nicotine-bentonite, and phenothiazine. The comparison indicated, according to the report, "that spray of lead arsenate alone or of lead arsenate alternated with cryolite result in a higher degree of control than do applications of lead arsenate or cryolite followed by nicotine-bentonite or phenothiazine."

The New Mexico station is conducting a comparison investigation of soil insecticides, using some of the more recently developed types, such as carbon disulfide emulsion, paradichlorobenzene emulsion and ethylene dichloride emulsion in attempts to find cheaper and more effective forms. As the life cycle of insects involved in the project is three years long, results of the study will not be forthcoming for some time, it was stated.

INVESTIGATORS at Iowa State College, Ames, Ia., reported on study of coddling moth control with the following materials: (a) lead arsenate, lime and soybean flour; (b) calcium arsenate, lime, ferrous sulfate and soybean flour; (c) lead arsenate, lime and soybean flour; (d) lead arsenate and lime. After detailing the procedure the report says "An examination at harvest of the fruit for the number of coddling moth entries and stings per 100 apples showed that the calcium arsenate group of trees was the poorest and the lead arsenate and lime block the best."

"This is the first time since these experiments were started in 1934," the report continues, "that calcium arsenate has given distinctly



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poorer results than lead arsenate on the coddling moth." As to the value of soybean flour as an adhesive for arsenical sprays, the report says: "Apparently soybean flour increases the load of arsenic deposited by both lead arsenate and calcium arsenate sprays considerably above that deposited by these sprays in the absence of soybean flour. At mid-season this difference was not marked, but at harvest it amounted to approximately a 3- or 4-fold increase."

TOMATO fruit worm control was the subject of a Georgia investigation at the experiment station farm, Experiment, Ga. Chemicals employed here were the following: (1) calcium arsenate-hydrated lime, equal parts; (2) cryolite-talc, equal parts; (3) calcium arsenate, 1 pound to 25 pounds of corn meal; (4) cryolite, 1 pound to 25 pounds corn meal; (5) cryolite 2 pounds, rosin residue emulsion 1 pound, water 50 gallons. Hand spraying, hand dusting and a hand motor sprayer were used and applications made at various rates.

Plants sprayed with cryolite had the highest infestation at harvest, this being 3.8 per cent. Plants dusted with cryolite and corn meal had only 1.3 to 2.3 per cent wormy fruit. The corn meal, it was concluded, acts as a bait for the worms. The poison applications did not seem to have protected the first fruits picked, but total average damage of 2.2 per cent in all plants indicated a satisfactory degree of control. Either the dust or the meal application is suggested for use.

NEW YORK's agricultural college entomologists at Ithaca continued investigations of alfalfa-snout beetles which were started back in 1934, the emphasis last year being on suitable control baits. "The most promising new bait found," says the report, "was one composed of ground corncobs, soybean flour, sugar and sodium fluosilicate," although it was stated that this lacks durability when placed on the ground during rainy weather.

For florists the New York station conducted tests of various ovicides to control the columbine and iris borer and it was concluded that a tar-distillate emulsion consisting of coal-tar creosote oil with lignin pitch as an emulsifier was "a promising ovicide for the columbine borer, perhaps also for the iris borer."

Tests proved that this tar distillate emulsion can be applied in the fall without causing any lasting injury. But the report adds: "Further experiments must be conducted before this emulsion can be recommended for general use."

In the field of non-poisonous sprays studies of various nicotine compounds established that for the adult or mature form of at least thirteen species of insects "nicotine has insignificant toxicity as a stomach poison."

"However," continues the statement, "for the newly hatched larvae of some of these species it acted as a powerful and effective insecticide, although its mode of action could not be determined." In explanation of this it was said that "the form in which the nicotine was used seemed to have little effect on its toxicity but the fixed or insoluble forms were generally more toxic when the foliage on which the insect fed and not the insect itself was sprayed."

The New York report says, also, this: "Probably the most significant development during the year has been the discovery of nicotine Reineckate. This material was first prepared by Dr. Norton and has exhibited remarkable toxicity to newly hatched coddling moth larvae. Laboratory tests have been so promising that limited field tests are planned."

At Purdue University, Lafayette, Ind., insecticide research was conducted in many fields but a new project, not of an insecticidal nature, deserves mention. With a view to improving rat bait in a study of rodent control, an experimental project was undertaken in cooperation with the research department of the American Can Co. to determine the feasibility of preparing a vacuum-packed red squill bait with uncooked foods. Says the report: "Although this problem was not fully completed, it was found that the high promotion of substances that would inhibit or eliminate bacterial growth greatly affected the quality of the bait and reduced its acceptance by rats."

Comments on Roach Powders

Research on roach powders should be carried considerably further than it has gone thus far and should go into the question of the best physical state for these products, that is color, particle size, etc., according to W. E. McCauley, entomologist at the State Natural History Survey Division at Urbana, Illinois. His communication states:

"I wish to compliment you for your efforts to crystallize opinion relative to roach powders. In my opinion there is nothing the pest control and insecticide industries need so much as a transition from individual thought to concerted effort and group thinking. Recently there has been clamoring for more research in the field of household insects—certainly there is justification for such requests. But, on the other hand, doesn't it seem logical to suppose that research would be stimulated by a better acceptance of known facts rather than as you state in your article, 'Their answers reveal a wide variation of opinion, far wider than was anticipated when the questionnaire was sent out. **Little attention has been paid to the technical literature apparently or to any organized research . . .**'

"Some of us working with insecticides have come to appreciate the importance of physical state almost as much as chemical composition. This is especially true in the case of dusts. I note with considerable disappointment that no mention is made in this article concerning physical state, that is particle size, dustiness, color, etc. Many of us know that certain inert materials may be added to a roach powder to decrease dustiness, increase adherance or to otherwise improve its desirability under conditions of use. Particle size of the toxicant is undoubtedly very important in roach powders. Moisture resistance is also quite important.

"Tools for applying roach powder would make another very enlightening subject for investigation as well as the efficiency of application as measured by man hours per pound of powder under specified conditions. I certainly hope you can continue the good work you have started in bringing to light existing variation in materials and methods."

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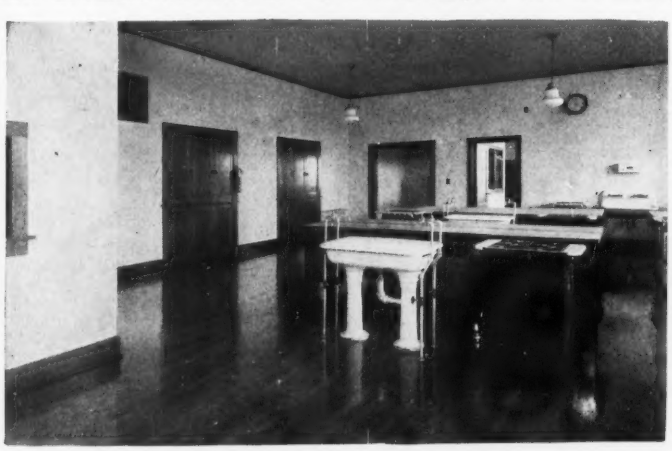

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What Composition Roach Powder?

(*from Page* 99)

out the foregoing rotenone mixtures, no allowance is included for deterioration as in the case of the pyrethrum combinations.

Material Costs

WHEN it comes to cost, there is no doubt but that the influence of this factor in determining the combination to be used as a roach powder, is very great. Particularly are professional pest control operators interested in cutting the cost of their roach powders. There is no wonder that so many lean to sodium fluoride in view of the effective job which it does plus the fact that it costs only eight to nine cents per pound, and is even suitable for use when diluted up to 50 per cent with an inert dust. The quick paralyzing action of pyrethrum is naturally much desired also, but its cost over the past year or two has been a deterrent to its wider use, the price earlier this year having been well over 30 cents per pound, and the market recently having declined to a figure slightly above 20 cents per pound. This latter is the current approximate figure for 5 per cent derris and cube roots which are used diluted with five to six parts of inert dust which very appreciably cuts the cost. The current market for borax approximates 3½ cents per pound. With these figures as a basis, the table accompanying this discussion has been made up to show roughly comparative material costs (not including processing, containers, etc.) and other information as shown by the questionnaire returns in regard to various roach powder combinations.

Mothproofing Agents

Mothproofing agents are divided into two classes: (1) Those acting in the vapor form, killing moths in all stages of development, and (2) those used for impregnation of material to be protected, making the latter unpalatable. In the first class, compounds boiling above 215° C. are ineffective. The substitution of methyl, methyl amine, amino, nitro and halogen groups in benzene gives compounds of greatly increased toxicity. Monochlorophenol, dichlorophenol, *para* - dichlorobenzene, perchloroethane, and *alpha*-tetralone are effective agents.

More or less satisfactory agents of the second class are: 2, 4-dinitro-*alpha* - naphthol (Martius Yellow), alginic acid, tannin, saponin, quinine derivatives, sodium, potassium, lithium, aluminum or zinc fluosilicate, fluosilicic acid, fluotitanic acid, tungstic acid, phosphotungstic acid, phosphomolybidic acid, uranic acid, colloidal stannic acid, and various benzylidenehydrazino derivatives. Hans J. Henk. *Seifensieder-Ztg.* **67,** 137 (1940).

Antiseptic Liquid Soap

Soap and water are used with about 33 per cent or less by volume of a hard-wood oil boiling at 180-240° C. and with a blending agent such as ethyl alcohol. Louis J. Figg, Jr., to Eastman Kodak Co. U. S. Patent No. 2,196,763.

Mothproofing Materials

F-chrome, thiourea and the potassium salt of sulfophenyl-thiourea are effective mothproofers of wool fabrics during dyeing. Washing with soap and thiourea is satisfactory. Protection against moths is provided by spraying the fabric with phenyl-aminothiazole, *para*-hydroxybiphenyl, dihydroxyphenyl butane, and to a lesser extent with thiourea and naphthylthiourea. During storage formalin, dichloroethane, naphthalene, *alpha*-bromonaphthalene and phenol proved effective. A. M. Serebryakov. Sherstyanoe Delo **1939,** No. 2-3, 38-9.

Sweeping Compound

Fragmented cottonseed - hull material with hairy surfaces is used as a base with a wetting liquid such as a paraffin oil which at ordinary temperatures is substantially non-volatile and inert to the hull material. The oil is present in a limited proportion so as not to destroy the light, fluffy character of the hull material. Harold S. Olcott, to Cotton Research Foundation. U. S. Patent No. 2,198,013.

Rat Control

The effectiveness of tellurium-treated rolled oats as poisoned bait for rats was markedly increased by the addition of crude corn oil. Corn oil was a much better attractant than raw linseed oil. Rats did not readily eat baits containing yellow phosphorus. R. E. Doty. Proc. Hawaiian Sugar Planters' Assoc. **59,** 85-7; through Chem. Abs.

Fractional Knockdown

(*from Page* 103)

lated and evaluated, the manufacturer should know just what to expect of an insect spray, and this can only be done by knowing both its kill and its knock-down. It will also show why a manufacturer's insecticide, which might be evaluated to have an equivalent or even greater efficiency as to kill with a competitive spray when put in actual service does not have the apparent efficiency of his competitor's spray in practical use.

Livestock Sprays

(*from Page* 95)

for example, send over 500 miles for a particular brand which they maintain suits their particular needs. A group of farmers interviewed in this vicinity are well satisfied with a locally-manufactured spray.

On the other hand, negative answers indicate a dissatisfaction with the repellency of livestock sprays used. Added to this is some skepticism that prolonged repellency can be obtained, — and they are practical enough not to expect what they consider impossible. Repeated observations were "It doesn't last," "Flies come right back in ten minutes." "Doesn't seem to last very long," and "is no good in the pasture."

There is an almost irreconcilable difference of opinion expressed in the answers to this repellency question. It could be well attributed to the fact that some cattle sprays are inferior products and a reflection on the good ones on the market. It is also fairly evident that an improvement in repellency is desirable if possible.

(*To Be Concluded*)

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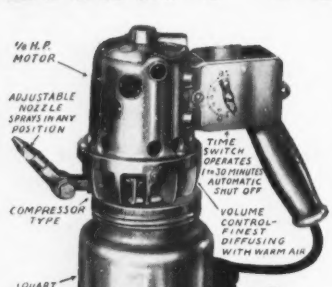
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News.....

Odora Co. Founder Dies

Jacob Goldman, founder in 1927, of Odora Co., New York, moth preventives, died October 7, at his home in New York, at fifty-two years of age. Active in business until shortly before his death, Mr. Goldman served as the Odora company's secretary for twenty-two years. He was also secretary-treasurer of Roseth Corp., New York, chemical supplies, for the past twenty years. Mr. Goldman was a graduate of the College of the City of New York, class of 1910. He served in France during the World War and was a member of the Golden Rule Masonic Lodge. He is survived by his wife Beatrice, two daughters and a brother.

Pacific Assn. Elects Johnson

Esler Johnson was elected president of the Pacific Insecticide Institute at the annual meeting of that group held October 8, at the Hotel Empire, San Francisco. Mr. Johnson is Pacific Coast representative for John Powell & Co., insecticide raw material suppliers, New York. Larry R. Stayner of Shell Oil Co. (California) was elected vice-president, with Dr. E. R. De Ong re-elected secretary-treasurer. Wallace Durham of Nico-Dust Manufacturing Co. is the retiring president.

A special program for the meeting was worked out with the cooperation of the University of California,—an attempt being made to prepare a joint attack on some of the problems of the Pacific Coast insecticide industry. Dr. W. B. Herms of the University faculty outlined the work that is going on in the University Experimental Station, with particular reference to the spray residue problem and the work on substitute insecticides which will leave no residues.

Dr. J. B. Terry, chief chemist of the Standard Oil Co. of California, outlined the type preparation that the student graduate should have before he takes up research work in the insecticide field. Dr. Stanley B. Freeborn discussed the policy of the university on work for the insecticide and other industries. They do not test proprietary materials, he advised, unless they know the nature of the materials under test. Neither do they make comparative tests on competitive brands, he reported.

Esler Johnson

A high point of the meeting was the talk by John P. Jones of San Francisco Sulphur Co., reviewing the laws of the various states pertaining to insecticides. He illustrated his talk by reference to a set of charts which showed graphically the multiple legal requirements that must be observed in the sale of insecticides. Dr. Alvin J. Cox acted as discussion leader following this talk, emphasizing that because of differences in problems in the various states, no uniform insecticide law is possible covering all states.

Trading Company Moves

Distributing and Trading Co., New York, carnauba wax, has just moved to 444 Madison Ave.

Protests "Gauzband" Claims

American Bandage Corp., Chicago, manufacturer and distributor of a self-adhering medicated bandage "ABC Gauzband," has been charged by the Federal Trade Commission with misrepresentation. The FTC complaint charges that the product is not self-sterilizing and will not remain sterile after it has been removed from the package as allegedly claimed in an advertisement of the company.

Glaze Opens L. A. Branch

Glaze Laboratories of Salt Lake City, Utah, has opened a branch plant at 8632 South Main St., Los Angeles, for the production of liquid wax for household use and automobiles. A paste and household cleaner will also be manufactured there.

Bomb Lambert London Plant

The London plant of Lambert Pharmacal Co. was destroyed by repeated bombings by Nazi air raiders in a recent night raid, according to a London report. No casualties were reported. A plant of Armour & Co., near London was also bombed and nine persons were killed.

Western Moves to New Plant

Western Chemical Co., St. Joseph, Mo., has just moved to a new plant located at 802 Charles St. Insecticides and janitors supplies are to be manufactured in the new plant.

Incorporates Andrew C. Roesch

Andrew C. Roesch and Eastern Wax Products, Inc., are now operating under the title of Andrew C. Roesch, Inc., Brooklyn. Mr. Roesch is president.

Form Odor Laboratories, Inc.

Odor Laboratories, Inc., New Rochelle, N. Y., has recently been formed to deal in deodorants and chemicals. Directors are: Frederick Reinschild, Mildred Sterin, both of New Rochelle, and Lawrence Sinberg, New York.

Chem Salesmen's Party Dec. 19

The annual Christmas party of the Salesmen's Association of the American Chemical Industry will be held in the Hotel Edison, New York, December 19.

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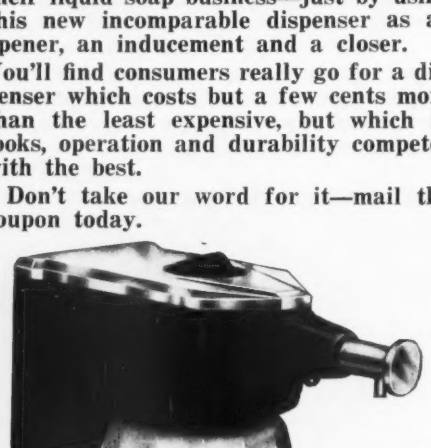

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Insecticide, Disinfectant Makers To Meet Dec. 2-3 in New York

Among those who will take a prominent part in proceedings at the annual meeting of the N.A.I.D.M. are (right) William J. Zick, president of the association; (below) Dr. E. G. Klarmann, "Are Soaps Germicidal"; and (lower right) Dr. C. C. McDonnell, "Changes in Enforcement of the Insecticide Act".

MEMBERS of the National Association of Insecticide and Disinfectant Manufacturers will gather at the Hotel Roosevelt, New York, December 2 and 3, for the 26th annual meeting of the association. Charles J. Dumas of Rohm & Haas Co., Philadelphia, chairman of the program committee, has arranged an impressive list of speakers for the annual session, while plans for entertainment of those attending are progressing under the direction of a committee headed by J. B. Magnus of Magnus, Mabee & Reynard, Inc., New York.

The general session will be preceded by a meeting of the Board of Governors the evening of Sunday, December 1. Group luncheons will be held on each of the following days and the convention will close with the annual banquet in the Hendrik Hudson room of the Roosevelt the evening of December 3.

Dr. C. C. McDonnell, in charge of the Insecticide Division, Agricultural Marketing Service, will head a long list of speakers, explaining to insecticide manufacturers the "Effect of Changes In the Department on Enforcement of the Insecticide Act." Another government representative, C. C. Concannon of the U. S. Department of Commerce, will also appear on the program, his topic being "The Effect of the War on Supplies of Raw Materials From Abroad." The war influence will also be noted in the talk of A. E. Stilson of Morse-Boulger Destructor Co., New York, "The Effect of the Defense Program on Consumption of Sanitary Supplies and Insecticides."

"Export Standards for Insecticides and Disinfectants" will be discussed by M. E. Countryman of the National Bureau of Standards. Dr. E. G. Klarmann of Lehn & Fink is to deal with the question "Are Soaps Germicidal? L. A. Appley of Socony-Vacuum Oil Co. will be heard on "Management on The March."

Among the group of technical papers are the following: "A New Method for Determination of Pyrethrins," by Dr. F. B. La Forge; "Droplet Size in Relation to Effectiveness of Liquid Insecticides," by E. M. Searles of the University of Wisconsin; "Methods for Checking Toxicity and Repellency of Cattle Sprays," by F. C. Nelson of Stanco, Inc.

A report on the work of the Mothproofing Investigations Committee will be heard from the chairman, F. W. Fletcher of Dow Chemical Co., Midland, Mich. Dr. F. L. Campbell will also report to the membership on the Ohio State fellowship investigation of "A Method for Crawling Insects." Reports by officers of the association and committee chairmen will make up the balance of the program.

General arrangements for the convention have been under the direction of Ira P. MacNair, secretary of the association, with the assistance of committee members John Powell of John Powell & Co., Fred Rauch of S. B. Penick & Co., and Harold King of R. J. Prentiss & Co. Messrs. Rauch and King are in charge of the cocktail party which will precede the annual banquet the evening of December 2.

Assisting C. J. Dumas on the program committee are R. F. Joyce of Derris, Inc., A. W. Morrison of Socony-Vacuum Oil Co., and Robert C. White, Jr. of Robert C. White Co. Assisting J. B. Magnus on the entertainment committee are Chas. Opitz of John Opitz, Inc. and William Bjork of L. Sonneborn Sons.

To hear effect of war on raw materials, changes in enforcement of Insecticide Act, influence of defense program on consumption of sanitary supplies, etc. at 26th I. & D. Assn. convention.

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Exhibit at Safety Congress

Industrial soaps for dermatitis control, building maintenance materials, equipment for handling dangerous chemicals and workmen's protective devices of many kinds were among exhibits displayed at the Safety Exposition, staged in connection with the National Safety Congress in Chicago, Oct. 7 to 11.

Great Stuff Products Co., West New York, N. J., showed a newly developed irradiated powdered hand cleaner, "C-M," which John D. Robnett of the company stated has been on the market three months.

Lightfoot Schultz Co., New York, in addition to their "La Grace" powdered soap line for industrial washroom use, displayed a series of soap novelties for Christmas gifts. All but four are new designs this season, according to W. E. Pemberton, Chicago sales manager.

West Disinfecting Co., Long Island City, N. Y., featured double-action "LanOKleen," a new powdered hand soap impregnated with anhydrous lanolin. Disinfectants, deodorants and other sanitation preparations together with insecticide vaporizers, drip machines and soap dispensers were also shown. Ralph Jackson, Chicago branch manager, was in charge.

"The Washword of Industry," Formula SBS-II, was promoted by Sugar Beet Products Co., Saginaw, W.S., Michigan, with G. S. Gove and W. C. Potter demonstrating this industrial skin cleaner. Also presented was a new compound "Slip-Not" for reducing the hazard of accidental falls on wet or greasy floors.

C. B. Dolge Co., Westport, Conn., exhibited "Handeez" a soap product for mechanics' use, "Alta Co." for control of athlete's foot and various disinfectants and floor finishes. S. G. Osborn, Cincinnati, supervisor of midwest sales, C. L. Weirich, chief chemist, at Westport, F. I. Brodhead, Lansing, Mich., and other field representatives, were on hand.

G. H. Packwood Mfg. Co., St. Louis, Mo., stressed "Facts About Pax" with emphasis on a new "Pax-savalened" skin cleaner for the factory workman and "Velvapax" for women's use.

Franklin Research Co., Philadelphia, displayed floor maintenance materials with stress on their "Rubber Gloss" aerated non-slip floor wax, "Chekit" wood floor wax, "Superfinish," a wax-soap cleaner, and "Rubber Gloss" furniture polish. In charge was Robert L. Hite, Philadelphia.

Walter G. Legge Co., Inc., New York, exhibited "Leco" safety floor polish and "Floor Shine," a combination non-slip polish and cleaner for rigid or resilient floors. Also displayed were preparations for cleaning, conditioning and re-coloring floors. Dale Medsker, Chicago district manager, was assisted by President Walter G. Legge of the company, who had stopped over in Chicago en route to the Pacific coast.

Masury-Young Co., Boston, with H. L. Male, sales manager in charge, promoted "Myco Dresoap" for non-slip floor maintenance.

Sanitary Institute of America also had a booth, where E. D. Szold, secretary, Chicago, explained the organization's service in supplying sanitary wiping rags for industrial use.

Deny "Tri-So" Trade Mark

The registration of "Tri-So" by Barrett Products Co., Boston, for use on an antiseptic mouth wash was denied recently by Assistant Commissioner of Patents Leslie Frazer because of its similarity to "Lysol," trade mark of Lehn & Fink Products Corp., Bloomfield, N. J. Mr. Frazer conceded that in appearance the two marks differed considerably, but said that when pronounced they sound very much alike "and it is now well settled that similarity in the sound of marks is alone sufficient to render confusion likely."

Krano Changes Address

Krano Sanitary & Janitor Supply Co., Chicago, formerly located at 4044 Elston Ave., has changed its address to 3502 Elston Ave.

"Bug-Dust-O-Cide" Stipulation

Imperial Chemical Co., Shenandoah, Iowa, has entered into a stipulation with the Federal Trade Commission in which it agrees to desist from certain representations in the sale of its product "Bug-Dust-O-Cide." The company agrees to discontinue representing that the product is an "all purpose" insecticide, is "dependable," provides adequate protection for gardens, flowers, shrubs or plants, prevents plant disease, or is superior to various comparable competitive products. The company also agrees to cease using statements such as "Rotenone is 38 times stronger than lead arsenate as a stomach poison to bugs and insects" or claiming that its product has no injurious effect on plant life and is non-poisonous to human beings or domestic animals.

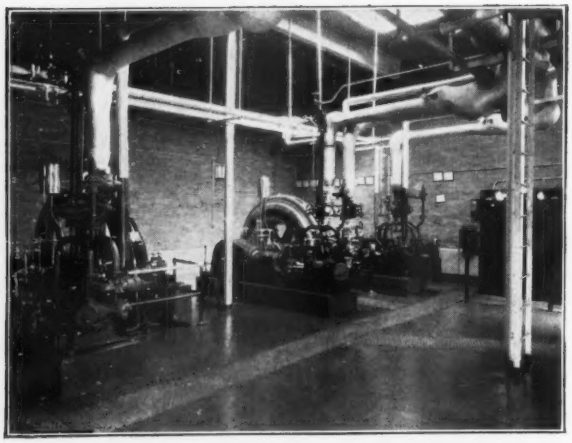
N. P. C. A. Elects Alderman

L. D. Alderman of the Alderman Company, Pasadena, Calif., was elected president of the National Pest Control Association for the coming year at the annual meeting held at the Hotel Claypool, Indianapolis, October 28-30. Concluding a very successful three day program, members of the association selected San Francisco as the 1941 convention city. Other new officers for 1941 include the following regional vice presidents: Ernest Barber, Barber Laboratories, New Orleans; Louis Kotler, Orkin Exterminating Co., Memphis; Charles Houghton, Safety Fumigant Co., Boston; Lawrence A. McKenna, A. C. Chemical and Exterminating Co., Cleveland; Max Levy, Twin City Exterminating Co., Minneapolis; Bob Hakley, of Palo Alto, Calif.; Secretary William Buettner, Oscar G. Buettner & Sons, Brooklyn; Treasurer, A. M. Akers, Rose Exterminator Co., Cleveland.

Central Chem. Plant Damaged

Central Chemical Co., Calumet City, Ill., was among industrial concerns in the path of a cyclonic storm which swept through suburbs on the southern fringe of Chicago Oct. 6. One employee was killed when a two-story wooden building collapsed.

HANDSOME COLORS FOR CEMENT FLOORS



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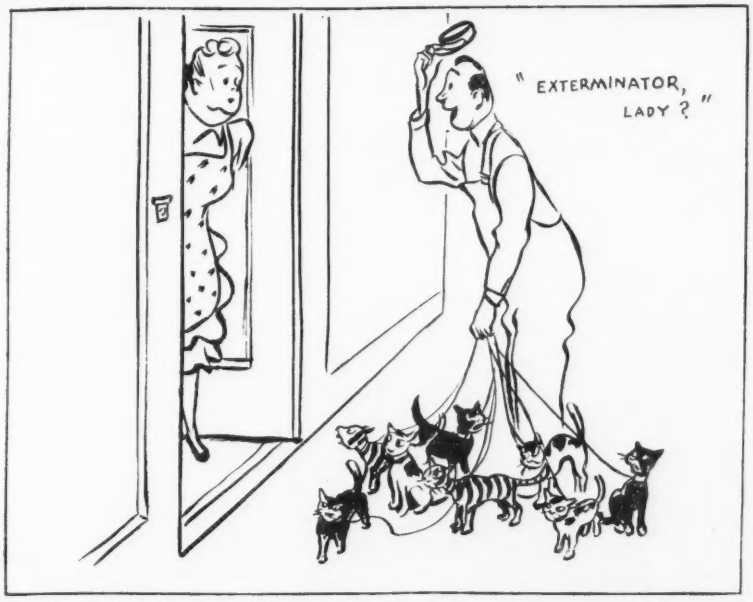

Reproduced from *The Givaudanian*, house magazine of Givaudan-Delawanna, Inc., N. Y.

Start Chicago Rat Campaign

Chicago's long-heralded municipal blitzkrieg against rats was launched last month in three badly-infested wards, with future plans on foot to extend it to the entire city. Although 2,000 workers were requested from relief administration headquarters, only 922 could be supplied at the start. Red squill is being distributed in streets and alleys and around private yards, where permission from property owners is obtained. Public Works Commissioner Oscar E. Hewitt has officially called attention to the 140 pest exterminators operating in Chicago and suggested that householders seek their cooperation for work within private premises.

Reorganize McAleer Co.

McAleer Co., Detroit, auto polish, has just been reorganized with C. M. and B. Higbie purchasing a substantial interest and being elected to the board. C. H. McAleer continues as president and treasurer.

Refuses Mathieson Marks

A recent decision of the Court of Customs and Patent Appeals barred registration by Mathieson Alkali Works, Inc., New York, of the trademarks, "Aqua-San" for "a chlorine carrier, algaecide, fungicide, deodorant and disinfectant" and "Lustra-San" for "bactericide, germicide, deodorant, insecticide and fungicide." The decision sustained an opposition filed by Huntington Laboratories, Huntington, Ind., based on the prior registration of the marks, "Derma-San" for a disinfectant, "Liqua-San" for liquid soap, and "Auto-San" for soap.

Hausman With Hollingshead

Ario P. Hausman, formerly assistant sales manager of West Disinfecting Co., Long Island City, N. Y., has just joined the sales force of R. M. Hollingshead Corp., Camden, N. J., as assistant to W. F. Plowfield, director of sales. Mr. Hausman will take charge of all national accounts for the company and also assist the metropolitan sales organization. He had been with West Disinfecting Co. for twenty-six years.

Mistakes Fluoride for Medicine

Mistaking a can of roach powder (sodium fluoride) for a package of medicinal salts, Mrs. Lillian Feeley of Syracuse, N. Y., was stricken October 3, after taking a dose of the supposed salts, and died less than six hours later. It is reported that the fluoride was the uncolored type and could not be distinguished visually from the medicine.

Bevernick Called To Duty

Richard Bevernick, connected with insecticide concentrate sales at the New York office of R. J. Prentiss & Co. for several years, has just been called for active duty with the U. S. Naval Construction Corps. Mr. Bevernick is a graduate of the U. S. Naval Academy and carries the rank of Lieutenant, Junior Grade. His return to Prentiss is expected following completion of his present term of service.

Extermital Stipulation

Extermital Chemicals, Inc., Dayton, has entered into an agreement with the Federal Trade Commission to stop making certain claims in the sale of its termite preparations, "Extermital A" and "Extermital B," which are used as soil treatments around building foundations. In the sale of its preparations the company agrees to discontinue representing that either the preparations or the method advocated for application are based on U. S. Government findings; that soil poisoning is recommended or recognized by federal authorities as the best termite control method or that these authorities advocate soil treatments by any method other than that known as the trenching method. The company further stipulates that it will cease representing that the repellent effectiveness of its products is permanent.

Red Book Listings Revised

In the current New York City edition of Donnelly's Red Book the names of bedding companies are reported to have been deleted from the "Exterminator" listings. In previous editions they had been listed under the theory that by selling a householder a new mattress they could be interpreted as performing an exterminating service. Complaints presented by the Professional Exterminators' Association of New York were instrumental in effecting the deletion.

Fire At Gwin Chemical

A recent fire destroyed part of the merchandise stocks of Gwin Chemical Co., Madison, Wisconsin.

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Offer New Disinfectant Product

Announcement of a new product, "Nopco 1444" for use in preparing pine oil disinfectants, was made recently by National Oil Products Co., Harrison, N. J. The product is described as a light colored base which is said to require only a simple hand mixing to obtain a disinfectant of high pine oil content.

Chi. Chem. Show Opens Dec. 11

The National Chemical Exposition which will be held at the Stevens Hotel, Chicago, December 11 to 15, will feature talks on new developments in chemistry and chemical engineering, the showing of new films and displays of a chemical nature.

Brings Out "Duraglas"

"Duraglas," the result of a new technique in glass making which is said to have made possible a stronger and more durable container, was announced recently by Owens-Illinois Glass Co., Toledo. The new containers will first be introduced in the beer and carbonated beverages fields.

Re-Define Employee Standings

Classifications of "executive," "administrative," "professional" employees and "outside salesmen" who need not be paid overtime were redefined October 13 in amended regulations affecting most interstate commerce establishments by Colonel P. B. Fleming, administrator of the Wage and Hour division, U. S. Department of Labor. Bulletin R-1090 explains the revised definitions.

New Floor Maintenance Book

T. F. Washburn Company, Chicago manufacturers of liquid wax and floor seals for the jobbing trade, have just published the 1941 edition of *Modern Floor Maintenance*. The new book covers ten different types of floor products. An innovation this year is that copies of the book having no mention of the Washburn name or their trade names are available. These are designed to serve the jobber salesmen as sales manuals for floor products. The important facts are summarized in such a way that the jobber can use the book as a guide in talking with customers and prospects. Copies may be obtained by writing Washburn Company or the publishers of *Soap & Sanitary Chemicals*.

Eavenson Heads Nopco Div.

Marvin S. Eavenson is now in charge of sales of a new division of National Oil Products Co., Harrison, N. J. which was formed by combining the laundry division with the soap, disinfectant and polish division of the industrial sales department. Mr. Eavenson, a graduate of the University of Pennsylvania, was for a number of years connected with Colgate & Co. and later with Colgate-Palmolive-Peet Co., Jersey City, as divisional sales manager.

Marvin S. Eavenson

Anchor Opens Cal. Branch

Pacific Coast Closure division of Anchor Hocking Glass Corp. has just begun manufacturing operations in its new closure factory in Los Angeles. The new factory is a modern, one-story fire-proof brick structure occupying a quarter of a city block. Hugh Crawford, who has been associated with Anchor on the West Coast for seventeen years has been named Pacific Coast closure sales manager.

Dow Erects Insecticide Unit

Dow Chemical Co., Midland, Mich., is erecting a 101 x 112 steel building for the manufacture of insecticides at its plant at Long Beach, Calif. It will cost about $10,000.

New Floor Finish Specs.

The Maple Flooring Manufacturers Association has just released new specifications for heavy duty finishes for use on maple, beech and birch floors to replace those which expire December 31, 1940. The specs for gymnasium finishes have also been revised. Copies of the new specifications with form for submission of samples for examination can be obtained from the Association or from the official laboratory, Foster D. Snell, Inc., 305 Washington St., Brooklyn.

Symon Becomes Shell Manager

Benjamin G. Symon, formerly of St. Louis, has just been made manager of the Shell Oil Co.'s technical products department, according to an announcement by Alexander Fraser, Shell president. Mr. Symon is to be in charge of all sales east of the Rockies of naphthas, solvents and other petroleum products for the company. He has been with the Shell company for over twelve years and for the last three years has been manager of the technical products department in St. Louis.

Son of Henry Nelson Injured

Jim Nelson, son of Henry A. Nelson, of Chemical Supply Co., Cleveland, and second vice-president of the N.A.I.D.M., was seriously injured in an automobile accident on the evening of October 11, when the car in which he was riding ran into a concrete abutment. Although confined to bed for several weeks, Jim is expected to recover without permanent injury.

Honor Consolidated Supt.

B. M. Todd, superintendent of the Newark warehouse of Consolidated Products Co., Newark, N. J., who is retiring after twenty-one years of service, was honored with a testimonial dinner given at the Newark Athletic Club, October 10.

Taylor & Co. Move

W. A. Taylor & Company, Baltimore, pH control equipment, have moved to new quarters at 7300 York Road.

HERE'S THE SIMPLEST, QUICKEST, CHEAPEST MACHINE FOR MIXING SWEEPING COMPOUNDS, DEODORANT CRYSTALS, INSECTICIDES

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Salts as Disinfectants

Cultures of *Micrococcus luteus*, *M. candicans* and *B. coli* were rendered sterile by treatment at 50° C. with (a) 3-5 per cent of soda ash, or Powder I containing water 52.2 per cent, soda ash 38.0, and sodium silicate 7.2 per cent,—or (b) 1-2 per cent of Powder II containing water 31.9 per cent, caustic soda 4.5, soda ash 29.4, trisodium phosphate 28.6, and sodium silicate 5.1 per cent. Powder III containing water 51.0 per cent, caustic soda 15.1, soda ash 6.3, and sodium silicate 26. per cent, or Powder IV containing water 30.4 per cent, soda ash 23.6, trisodium phosphate 22.6, and sodium silicate 23.6 per cent. The detergents can be arranged in order of increasing bactericidal action as follows: soda ash and Powder I, Powder II, Powder III, and Powder IV. V. Aschehoug and Rolv Vesterhus. *Tids Hermeticind.* **25,** 62-5; through Chem. Abs.

Derris Smoke

Smoke from a burning mixture containing 50 per cent of derris, 30 of cornstalks and 20 per cent of sodium nitrate was more than 10 times as toxic to adult houseflies as pyrethrum burned in the same manner. The presence of rotenone in the smoke as long as one hour after ignition was established. Lyle D. Goodhue and W. N. Sullivan. *J. Econ. Entomol.* **33,** 329-32 (1940).

Rotenoids

Worsely defines rotenoids as naturally occurring substances in the papilionaceous plants which give a blue or green color with strong nitric acid followed by strong ammonia solution. Earlier Buc defined rotenoids as the insecticidal principals of some plants such as derris and cube, not exactly identical with rotenone but having a similar insecticidal action. Mikeska gave the name to a mixture of deguelin, tephrosin, toxicarol, etc., which was toxic when applied to insects. Worsely's, definition includes rotenone, the other two definitions exclude it. The Durham color test used by Worsely is considered unreliable, more recent tests being better. Since rotenoid is a word that promises to be used by entomologists, the following definition is proposed: A rotenoid is a substance other than rotenone but structurally related to it, naturally occurring in leguminaceous fish-poison plants such as Derris, Lonchocarpus, Mundulea and Tephrosia. Examples of rotenoids are 1-deguelin, 1-*alpha*-toxicarol, sumatrol and elliptone. R. C. Roark. *J. Econ. Entomol.* **33,** 416 (1940).

Glass Cleaners

(*From Page* 30)

No simple wetting agent or detergent solution will do the trick. A number of liquid products have claimed that they will dissolve dead insects but no solvent on earth will do this. A scouring agent containing abrasive is the thing to use. Some garage workers use a well known brand of scouring powder which consists essentially of feldspar. Feldspar is an excellent abrasive for the purpose since although it is a hard abrasive, the particles occur in the form of flat platelets which do not scratch readily. Scouring soap in bars and paste are also used. These are mostly ordinary scouring products not designed especially for use on glass. Glass is hard enough so that mild scouring powders containing feldspar, amorphous silica or diatomaceous earth, will not scratch it.

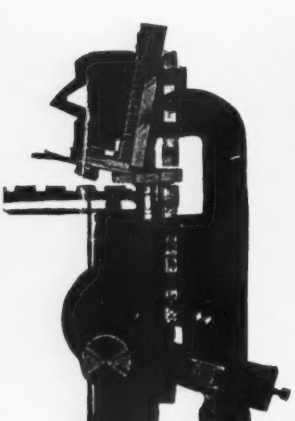
A paste product developed primarily for cleaning glass contains about 5 per cent of wax, 2 per cent of triethanolamine soap to serve as emulsifying agent, 15 per cent of kerosene, 15 per cent of diatomaceous earth, and the rest water. It is probably thought that a light film of wax left on the glass will give it a better luster and help protect it from soil. The kerosene is more than a mere wetting agent, it is a solvent for greasy matter in the soil. The presence of a solvent loosens the dirt quickly, while the soft abrasive present aids in the removal of solid dirt particles and the remains of insects. A little kerosene in water makes an efficient glass cleaner, but is not as practical as the water-soluble materials for general use, because it would require emulsification, or would leave behind an oily film.

A number of metal polishes are recommended by their manufacturers as glass cleaners. Where scouring is required they should prove satisfactory provided the abrasive present is not too harsh. Most high-grade brass polishes contain amorphous silica as abrasive, which should not scratch glass. Many of them contain ammonia soap as emulsifying agent and a small excess of ammonia. Some of them also contain a small amount of alcohol, so that the general nature of the product is not incompatible with that of window cleaners.

However, abrasive cleaners, whether used in the form of scouring powders or metal polish, serve only as a last resort where stringent methods are required. No garage man likes to use such products. For one thing they require a good deal of hard work to apply and rub off in a partially moistened condition. For another, particles of the solid material are bound to drop down onto the cowl of the car and, to get into cracks, from which they have to be brushed or rubbed off, and sometimes worked out before removal. Nevertheless, drastic methods are required involving inconvenience and difficulty, when windshields are badly smudged with insect bodies. Although a number of products intended primarily for some other purpose are applicable, one precaution to observe is the avoidance of harsh scouring powders containing crystalline silica such as are used for scouring tiled floors, etc.

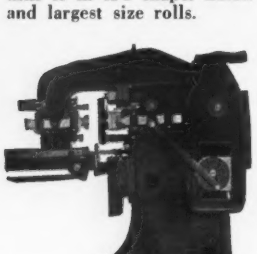
Glass cleaners appear definitely to have made a place for themselves. They can be a useful and convenient adjunct in the home, the service station and a number of other places. Too many of the several hundred brands which have appeared have been merely hasty attempts to cash in on someone else's good will and advertising. Products of the type that contain less than 10 per cent of straight alcohol can be expected to disappear but meantime they have done their quota of harm to the manufacturers who are more earnest and honest in purpose.

Special Offerings of SOAP MACHINERY *Completely Rebuilt!*

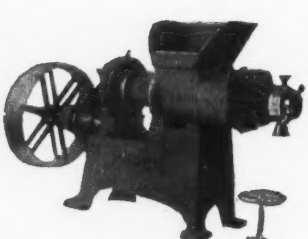


Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.

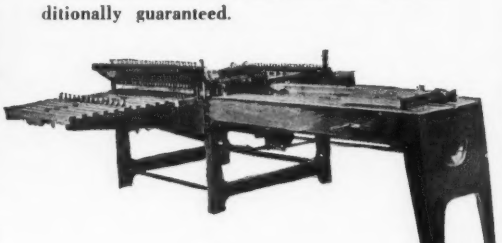
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.



Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

INVESTIGATE THESE SPECIAL BARGAINS

•

Johnson Automatic Soap Chip Filling, Weighing and Sealing Machines for 2 lb. and 5 lb. Packages guaranteed in perfect condition.

•

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
Ralston Automatic Soap Presses.
Scouring Soap Presses.
Empire State, Dopp & Crosby Foot Presses.
2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
H-A 4 and 5 roll Steel Mills.
H-A Automatic and Hand-Power slabbers.
Proctor & Schwartz Bar Soap Dryers.
Blanchard No. 10-A and No. 14 Soap Powder Mills.
J. H. Day Jaw Soap Crusher.
H-A 6, 8 and 10 inch Single Screw Plodders.
Allbright-Nell 10 inch Plodders.
Filling and Weighing Machine for Flakes, Powders, etc.
Steel Soap frames, all sizes.
Steam Jacketed Soap Remelters.
Automatic Soap Wrapping Machines.
Glycerin Evaporators, Pumps.
Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
Perrin 18 inch Filter Press with Jacketed Plates.
Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
Day Grinding and Sifting Machinery.
Schultz-O'Neill Mills.
Day Pony Mixers.
Gardiner Sifter and Mixer.
Proctor & Schwartz large roll Soap Chip Dryers complete.
Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
Day Talcum Powder Mixers.
All types and sizes—Tanks and Kettles.
Ralston and H-A Automatic Cutting Tables.
Soap Dies for Foot and Automatic Presses.
Broughton Soap Powder Mixers.
Williams Crutcher and Pulverizer.
National Filling and Weighing Machines.

Send us a list of your surplus equipment— we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 WEST 35th STREET, CHICAGO — Phone Yards 3665-3666

Our Forty Years Soap Experience Can Help Solve Your Problems

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Former Chemical Manufacturer, Dr., twenty years experience in waxes, polishes, sanitary and cosmetic products, desires to invest money in sound chemical business, where chemist partner is needed. Also interested joining experienced salesman in new chemical enterprise. Address Box No. 899, care *Soap*.

Chemist: Man with twenty years practical control and research background in chemistry, chiefly in soaps and detergents with large manufacturer, desires to make new connection in the industry. Good practical background for supervising and controlling production. Address Box No. 897, care *Soap*.

Analytical Chemist and Soap Maker, specialist in laundry and textile soaps, dry cleaning and potassium soaps (liquid and paste), sulfonated products and polishes; able to remove Ca, Mg, Fe soaps and proteins from soaps during the boiling process, with other improvements in line of soaps and detergents and many years of experience, wishes new connection. Address Box No. 898, care *Soap*.

Sales Promotion—Man with extensive background in merchandising and advertising in drug and chemical specialties, insecticides, etc., chiefly with two large firms, desires new connection in sales promotion and advertising. For further details, communicate with Box No. 882, care *Soap*.

Soap Expert—Man with 30 years practical experience in soap plant operation, expert on toilet and laundry soaps, is available for part time consultation on cash reduction, quality improvement and other problems. For further details write to Box No. 881, care *Soap*.

Insecticide and Specialty man: Executive for a number of years in charge of specialty department for large company with successful merchandising and sales record, desires new connection. Has specialized in household insecticides, polishes, waxes, cleansers, etc. For further details communicate with Box No. 900, care *Soap*.

It is buying wisdom to "ASK WECOLINE" before placing your orders for DISTILLED FATTY ACIDS and REFINED VEGETABLE OILS.

Among the Wecoline specialties are LAURIC . . . WHITE OLEIC . . . CAPRIC . . . STEARIC . . . also whole acids of PALM . . . COCONUT . . . CORN . . . TEASEED . . . SOY BEAN . . . LINSEED . . . COTTONSEED.

Learn about Wecoline's high standards of production . . . about the PURITY, WHITENESS OF COLOR, UNIFORMITY, and all around skilled processing of fatty acids and oils.

Inquiries also invited from manufacturers of specialty products which call for individually-processed fatty acids or oils, under rigid specifications.

Write for Booklet "30 Years of Progress"

WECOLINE Products, Inc. BOONTON, N.J.
Sales Offices: NEW YORK . . . . . CHICAGO . . . . . BOSTON

ELECTED!

When your plant is "elected" to fill a big order, "vote" Consolidated for 1st class equipment—at substantial savings and a plurality of profits.

SELECTED SPECIALS

1—Sargent 54" x 72" single Chilling Roll.
2—Proctor & Schwartz Soap Chip Dryers, steel frame; 1 with single cooling roll.
1—Houchin Para Block Press, with 1⅛" x 3" dia.
2—Jones Vertical Automatic Soap Presses.
1—Jones Horizontal Automatic Soap Press.
3—Houchin Plodders, 10", 8".
2—Pneumatic Scale Carton Packaging Units.
2—Automatic Soap Wrapping Machines.

Crutchers	Foot and Automatic Soap Presses	Filter Presses
Soap Kettles	Cutting Tables	Soap Frames
Powder Mixers	Pulverizers	Powder Fillers
Granite Mills	Soap Pumps	Labellers
Plodders	Soap Chippers	Tanks
Slabbers		Boilers

Send for New Illustrated Circular

CONSOLIDATED PRODUCTS CO., INC.
15-21 PARK ROW NEW YORK, N. Y.
BArclay 7-0600 Cable Address: Equipment
We buy your idle Machinery—Send us a list.

TESTED DISINFECTANTS
Guaranteed phenol coefficients
Coal Tar, Coefs 2 to 20
Pine Oil, Coefs 3 and 4
Cresylic, Coef. 2.5 plus
Every batch is tested bacteriologically by F. & D. A. methods by a well known commercial laboratory (name on request).

"GOOD" PRODUCTS at "GOOD" PRICES
MANUFACTURED BY US UNDER CAREFUL LABORATORY CONTROL

POTASH SOAPS
Guaranteed soap content
Uniform consistency
Controlled alkalinity
Liquid Soaps (up to 40%)
Vegetable Oil Soaps
Pine Scrub Soaps (Liquid and Jelly)
Sassafrassy Scrub Soap
Potash Oil Auto Soap
U. S. P. Green Soap

JAMES GOOD, Inc.
Manufacturing Chemists Since 1868
2112 E. Susquehanna Avenue PHILADELPHIA, PA.

We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
Olive Green	Palm Green
Yellow	Golden Brown
True Blue	Violet

It will pay you to send for testing samples.

PYLAM PRODUCTS CO., INC.
Manufacturing Chemists, Importers, Exporters
799 Greenwich St. New York City
Cable Address: "Pylamco"

Do You Need Special
ROTENONE and DERRIS RESINS?

No matter what your requirements may be the chances are we can supply a suitable product. DERRIS, Inc., raw materials are used in all types of finished insecticides —household, horticultural and agricultural. Investigate the advantages of using these specialties in your sprays and powders.

Derris Powder — Cube Powder
of Finest Grind

DERRIS, Inc.
79 WALL STREET NEW YORK, N. Y.

SOAP DIES and MOULDS

—for—
TOILET SOAPS
LAUNDRY SOAPS AND
BATH TABLET
STAMPING

For Foot and Power Presses

Established 1894

ANTHONY J. FRIES & SON CO.
717 Sycamore Street Cincinnati, O., U. S. A.

Positions Open

Wanted: Man capable of operating soap and cleaning specialty plant. Acquainted with the manufacturing of paste, potash soaps, soap powder, liquid scrub soap, liquid hand soap, etc., metal polishes, waxes, disinfectants, etc. Address Box No. 911, care *Soap.*

Soap and Maintenance Supply Salesman—to sell complete line to institutions, hotels, industrial companies and restaurants; exclusive territories; good commissions. Address Box No. 915, care *Soap.*

Wanted: Soap maker and superintendent by a midwest firm. Must be well versed in manufacture by rapid process of industrial and package granulated soaps. Knowledge of installation and plant operation necessary. Give all information and salary expected in first letter. Replies confidential. Address Box No. 910, care *Soap.*

Wanted by eastern insecticidal raw material firm—a chemist who can combine sales ability with a limited amount of laboratory control work. Familiarity with insecticide field desirable, although not essential. Write in confidence, giving full particulars as to training and past experience. Address Box No. 909, care *Soap.*

Miscellaneous

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Rebuilt Guaranteed Machinery: Crutchers; Plodders; Jones Automatic Soap Press; Foot Presses; Proctor Soap Dryer; 9x24, 12x30, & 16x40 Three Roll Water Cooled Steel Mills; 4 Roll Stone Mill; Johnson Carton Sealers; Powder Fillers; 6 Knife Chipper; Mixers; Grinders; Boiling Kettles; Cutting Tables; Soap Frames; Filters & Filter Presses, etc. Send for Soap Bulletin No. 402. Stein Equipment Corp., 426 Broome St., New York City.

Soap Plant Available—Small soap plant located in the middle west, manufacturing liquid soaps, shampoos, shaving creams, cosmetics, etc., is offered for sale. This is a going business which has been established for many years with a good reputation. Outside interests of present owners require that the business be sold. For further details communicate with Box No. 913, care *Soap.*

Will Purchase Immediately—Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 914, care *Soap.*

Worth Investigating!

TWIN-CITY WAXES

FOR EVERY PURPOSE

ATTRACTIVELY PRICED FOR THE JOBBING TRADE

SKIDLESS WAX—Waterproof, a superior wax ideal for office, home, gymnasium, etc.

WAXES FOR INDUSTRIAL TRADE—Made to meet hard usage—priced to meet competition.

PASTE AND LIQUID RUBBING WAX—for every type of work where high lustre is prime requisite.

Write for Complete Information, Samples, etc.

TWIN-CITY SHELLAC CO.

Makers of the Popular DAN-DEE No-rubbing Floor Wax

334 FLUSHING AVE. BROOKLYN, N. Y.

Bulk—

Shampoo Bases
Liquid Soap Base
Green Soft Soaps

Liquid Shampoos
Liquid Toilet Soaps
Scrubbing Soaps

For Repacking and Jobbing 55 years' experience assures satisfaction.

GEO. A. SCHMIDT CO.

Manufacturers of SOAPS of Every Description

236-238 West North Avenue
Chicago.

A New Departure In Crutcher Performance

The HUBER ELECTRO PERFECTION CRUTCHER is now available in a new model,—with four forward and reverse speeds. The flexibility in operating technique afforded by this wider choice of crutcher speeds should be decidedly interesting to many soap makers. Available in three sizes,—1,500, 2400 and 3200 pounds.

HUBER MACHINE CO.

"Builders of Good Soap Machinery for the Past 45 Years"

265 46th STREET BROOKLYN, N. Y.

FOUGERE SAVON SUPREME

A FINE PERFUME OIL FOR SOAPS AND ALL SOAP PRODUCTS

FOUGERE SAVON SUPREME

We shall be pleased to forward a sample and full information

COMPAGNIE PARENTO, Inc.

Croton-on-Hudson New York

SPECIALTY WAXES

A new line of waxes to replace Montan, Ozokerite and other imported waxes that are now practically unobtainable.

These are not synthetic, but waxes which have been converted under special processes, and developed to meet present conditions.

A B—Super Wax, 180/185 M.P.—to replace Ozokerite.

A G—Insulating Wax, Black, 175/180 M.P.—to replace Montan.

A B—Flex Wax, Bleached, 155/160 M.P.—to replace Beeswax.

Prices upon request.

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LENAPE TRADING CO., INC.

225 BROADWAY NEW YORK

Sales Representatives

BOSTON, MASS.
N. S. Wilson & Sons Co.
729 North Station
Industrial Bldg.

ST. LOUIS, MO.
Clifford L. Iorns Co.
619 Clark Ave.

CHICAGO
Arthur C. Trask Co.
4103 So. La Salle St.

SYRACUSE, N. Y.
L. R. Cross
418 Solar St.

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by

HAROLD H. SHEPARD, Ph.D.

University of Minnesota

Should be included in the Technical library of every insecticide manufacturer

This first complete volume given over solely to the subject of insect toxicology. The following subjects are covered in detail: History of insecticides; The principles of insecticide toxicology; The poisonous materials such as arsenicals, fluorides, copper compounds, etc.; Contact insecticides and adjuvants; Plant insecticides such as derris, pyrethrum, nicotine and various synthetic materials; Insect fumigants, attractants, repellants; Testing of insecticides. A fine compilation of technical and commercial information. 8 x 11, 383 pp.

Per Copy—4.00. Send Check With Order

MAC NAIR-DORLAND COMPANY

254 West 31st Street New York City

With years of Executive Experience in the formulation, manufacture, buying, sales and application of industrial chemical specialties such as soaps, synthetics, cleaning compounds, polishing compositions for metalcraft, automobile and floors, self-polishing waxes, emulsions, lubricating greases, chemical water softeners, etc., and as Chief Chemist, desire to hear from responsible parties interested in improving their present set-up by the addition of a new department or interested in the formation of a new corporation. Address Box No. 908, care *Soap*.

For Sale: Just purchased from Boston, Mass., 1 Garrigue evaporator; 1 P. & S. soap chip dryer; 20 soap boiling kettles; 150 soap frames; 6 crutchers. Wire, phone, write for details and prices. Equipment must be moved within 30 days. Brill Equipment Corporation, 183 Varick Street, New York City.

Wants Agency: Austrian expert would like to get the sole agency of an American manufactory of soaps and cleansing articles in Detroit, Mich. Best references. Address Box No. 907, care *Soap*.

For Sale: In fast-growing Florida's busiest city, small well-established wholesale insecticide manufacturing business. Be independent. Other interests require owner's full time. Address Box No. 912, care *Soap*.

Classified Advertising

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of $2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap & Sanitary Chemicals*. It will place you in touch with the entire soap and sanitary products industry.

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Valencia Pumice

Reg. U.S. Pat. Off.

an

AMERICAN PRODUCT

Similar to Italian Pumice
In physical and chemical properties.

Write for samples and 12 page booklet of information

BARNSDALL TRIPOLI CORPORATION
PUMICE DIVISION
(Subsidiary Barnsdall Oil Co).
SENECA, MISSOURI, U. S. A.

HERE'S HOW...
to get at those dirty floors

PECK'S No. 955 VARNISHALL SCRUB;

It Cleans by "LIFT"

Dirt and insoluble matter raised from the floor and held in suspension until wiped or rinsed from the floor—does a thorough job with no danger of marring surface.

A FOUR STAR FLOOR SOAP

- ★ High Soap Content
- ★ Non-Alkaline
- ★ A Suspension Cleaner
- ★ Safe on Any Surface

Packed . . . Drums . . . ½ Drums . . . ¼ Drums . . . 10 Gal. Tins 5 Gal. Tins

THE MARK OF PREMIUM QUALITY SOAPS

Peck's PRODUCTS COMPANY
5224-40 NORTH 2nd ST., ST. LOUIS, MO.
NEW YORK . . . . KANSAS CITY
Manufacturers for Jobbers Exclusively

F. & S.

Quality Colors
for
TOILET SOAPS
LIQUID SOAPS
TOILET PREPARATIONS

Long experience enables us to produce colors for all types of soaps.

If you have a shade you want matched send us a sample. We have complete facilities for matching.

Liquid soap colors a specialty—send for samples of F. & S. greens and ambers.

FEZANDIE & SPERRLE, Inc.
205 FULTON STREET
NEW YORK, N. Y.
Import—Manufacture—Export

CRESYLIC ACID
• • •
HIGH BOILING
TAR ACIDS
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TAR ACID
CREOSOTE OIL
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MIRVALE CHEMICAL CO., Ltd.
MIRFIELD YORKS, ENG.

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A very few complete bound volumes of SOAP and SANITARY CHEMICALS are available. Those listed below are substantially and attractively bound in blue cloth covered cardboard stamped in gold. We can also supply some individual back copies at 50 cents each. Do you need any to complete your files?

Vol. 3, Sept., 1927 to Aug. 1928—2 sets @ $10.00 ea.
Vol. 15, Jan., 1939 to Dec., 1939—2 sets @ 12.00 ea.
Vol. 16 available Jan., 1941, @ 12.00 ea.

Postage Prepaid in U. S.

MACNAIR-DORLAND CO., Inc.
254 W. 31st STREET NEW YORK

Our Enemy the Termite

By THOMAS E. SNYDER

Senior Entomologist, Bureau of Entomology, U. S. Department of Agriculture

The termite is treated from the economic as well as the entomological view in this new treatise which is based on the author's 26 years of study of termites and termite control. Methods of control are given special consideration and practical suggestions are made for building termite-proof houses as well as for saving structures that are already infested. 196 pages. 6¼ x 9⅜.

PRICE—$3.00
Send Check with Order

MACNAIR-DORLAND CO.
254 West 31st St. New York City

Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, page 137, for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

BULK AND PRIVATE BRAND PRODUCTS

Ampion Corporation (Soaps and Sanitary Chemicals)
Associated Chemists, Inc. (Insecticides)
Baird & McGuire, Inc. (Disinfectants)
Buckingham Wax Corp. (Wax Products)
Candy & Co. (Wax Products)
Chemical Mnfg. & Dist. Co. (Soaps and Sanitary Chemicals)
Chemical Supply Co. (Disinfectants, etc.)
Clifton Chemical Co. (Soaps and Sanitary Chemicals)
Davies-Young Soap Co. (Soaps and Floor Wax)
Federal Varnish Co. (Wax Products)
Fuld Bros. (Soaps and Sanitary Chemicals)
James Good, Inc. (Sanitary Chemicals)
Hysan Products Co. (Sanitary Chemicals)
Koppers Co. (Disinfectants)
Kranich Soap Co. (Potash Soaps)
Pecks Products Co. (Soaps and Sanitary Chemicals)
Philadelphia Quartz Co. (Detergents)
Reilly Tar & Chem. Co. (Floor Seals)
Geo. A. Schmidt & Co. (Soaps)
Sweeping Compound Mfrs. Co. (Sweeping Compound)
Twin City Shellac Co. (Wax Products)
Uncle Sam Chemical Co. (Sanitary Chemicals)
T. F. Washburn Co. (Wax Products)
White Tar Co. (Disinfectants, etc.)
Windsor Wax Co. (Wax Products)

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Chemical Mfg. & Dist. Co.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Chemical Co.
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Reilly Tar & Chemical Corp.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Co.
Mirvale Chemical Co.
Monsanto Chemical Co.
Pittsburgh Coal Carbonization Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Interstate Color Co.
Pylam Products Co.
Tamms Silica Co.

CONTAINERS AND CLOSURES

American Can Co. (Tin and Fibre Cans, Steel Pails)
Anchor-Hocking Glass Corp. (Closures and Bottles)
Continental Can Co. (Tin Cans)
Crown Can Co. (Tin Cans and Steel Pails)
National Can Co. (Tin Cans)
Owens-Illinois Glass Co. (Bottles and Closures)
Williams Sealing Corp. (Closures)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
Garnet Chem. Corp.
Hysan Products Co.

INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.
Associated Chemists, Inc.
Dodge & Olcott Co.
John Powell & Co.
Rohm & Haas Co.
U. S. Industrial Chem. Co.
Whitmire Research Corp.

MACHINERY

Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Karl Kiefer Machine Co. (Filling Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
J. M. Lehmann Co. (Soap Machinery)
Mixing Equipment Co. (Tanks, Mixers)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc.)
Stokes & Smith Co. (Packaging Machy.)

Feature the new 4-in-1* Applicator in connection with your self-polishing wax, varnishes, seals, etc.

It will make your customers and prospects more satisfied with your own products.

Don't be satisfied with anything less than the newest and best.

The 4-in-1 Applicator is the cheapest in the long run.

* Patent Pending

Send for Samples and Literature

AMERICAN STANDARD MFG. CO.
2509-13 S. Green St. Chicago, Ill.

Write for this new Data Bulletin

It is packed with useful information on

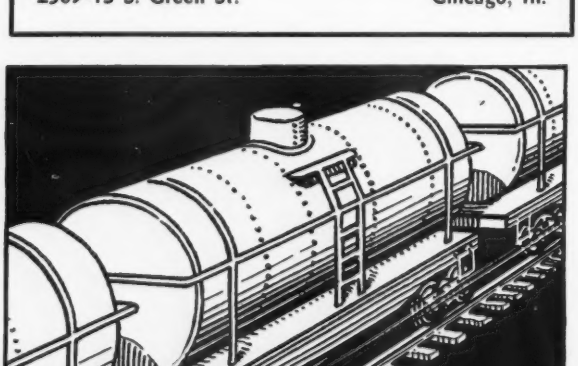
HOOKER PARADI

(Reg. U. S. Pat. Off.)

Whether you sell moth killers in crystal or block forms, or deodorant blocks or crystals, you will welcome the information in this new little bulletin. Welcome, too, will be the accurately sized, clear, bright, free-flowing crystals of HOOKER Paradi. This product is a pure, unadulterated crystalline form of paradichlorbenzene, produced in six convenient sizes best suited to the needs of repackagers. Write for your copy of the new HOOKER bulletin.

HOOKER ELECTROCHEMICAL COMPANY
NIAGARA FALLS, NEW YORK
NEW YORK CITY TACOMA, WASHINGTON

828



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LARD OIL
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Prompt Delivery—Drums, Barrels, or Tank Cars.

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THE average business house receives a great many inquiries for its products or services every year which cannot be attributed to any special source. A vast majority of these probably originate from some form of advertising but, due to the general tendency toward not mentioning the names of publications, cannot be directly traced.

When you write to anyone advertising in this publication, say you saw it in SOAP. The advertiser will appreciate it—and so will we!

The Publishers

Raw Material and Equipment Guide

NOTE: This is a classified list of the companies whichadvertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index of Advertisements, page 137, for page numbers. *"Say you saw it in SOAP."*

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

MISCELLANEOUS

American Standard Mfg. Co. (Wax Applicator and Mops)
Anchor-Hocking Glass Corp. (Metal Caps)
Barnsdall Tripoli Co. (Pumice and Tripoli)
Crosby Naval Stores, Inc. (Pine Oil and Rosin)
Dow Chemical Co. (Germicides, Agricultural Insecticides, Fumigants)
Filtrol Corp. (Purifying and Decolorizing Clay)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Koppers Company (Coal, Coke, Roofing Materials)
Newport Industries, Inc. (Pine Oil and Rosin)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
Reilly Tar & Chem. Co. (Preservatives)
Steryl Prods. Corp (Toilet Deodorizer)
Tamms Silica Co. (Silica, Volcanic Ash, etc.)
Victoria Paper Mills Co. (Toilet Tissues)

OILS, FATS, AND FATTY ACIDS

Eastern Industries
Emery Industries, Inc.
Independent Manufacturing Co.
Industrial Chemical Sales Div.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING MATERIALS

American-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. Du Pont de Nemours & Co.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Rifa—New York, Inc.
Ungerer & Co.
Van Ameringen-Haebler, Inc.
Albert Verley, Inc.

PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petrolatum, Paraffine Oils, Residues, etc.)

Atlantic Refining Co.
General Petroleum Corp.
Pennsylvania Refining Co.
Shell Oil Co.
L. Sonneborn Sons, Inc.

PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.)

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
General Chemical Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

PYRETHRUM AND ROTENONE PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products)

Associated Chemists, Inc.
Derris, Inc.
Dodge & Olcott Co.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.
Whitmire Research Corp.

SILICATES

E. I. du Pont de Nemours & Co.
General Chemical Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Ampion Corp.
Bobrick Mfg. Co.
Chemical Mnfg. & Dist. Co. (Dishwashing Comps.)
Clifton Chemical Co.
Fuld Bros.
Presto Mfg. Co.

SPRAYERS

Breuer Electric Mfg. Co. (Electric)
Fumeral Co. (Pressure Sprayers. Steam, Air, CO_2 gas)

WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.)

American Cyanamid & Chem. Corp.
T. G. Cooper & Co.
Innis, Speiden & Co.
Lenape Trading Co.
The Mac Lac Co. (Shellac)
Mantrose Corp. (Shellac)
Twin City Shellac Co. (Shellac)

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NINE THOUSAND Textile Mills, Dyers, Finishers, Bleachers and printers in the United States and Canada are fully reported. Many Mills and Dyers Buy Soap!

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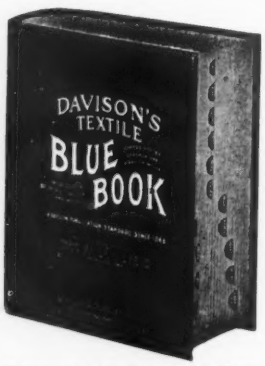

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STATEMENT OF OWNERSHIP

Statement of the ownership, management, circulation, etc., required by the Act of Congress of March 3, 1933, of Soap & Sanitary Chemicals, published monthly at New York, N. Y., for October 1, 1940.

State of New York, County of New York.

Before me, a Notary Public in and for the State and County aforesaid personally appeared Grant A. Dorland, who, having been duly sworn according to law, deposes and says that he is the Business Manager of Soap & Sanitary Chemicals and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, MacNair-Dorland Company, Inc., 254 W. 31st St., N. Y. C.; Editor, Ira P. MacNair, 254 W. 31st St., N. Y. C.; Managing Editor, Wayne E. Dorland; Business Manager, Grant A. Dorland, 254 W. 31st St., N. Y. C.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)
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5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the months preceding the date shown above is ——. (This information is required from daily publications only.)

GRANT A. DORLAND,
Publisher

Sworn to and subscribed before me this 20th day of September, 1940.

Samuel Newmark, Notary Public, Nassau County, Nassau County Clerk's No. 1826. Certificate filed in New York County. County Clerk's No. 158. Reg. No. 2-N-87. Commission expires March 30, 1942.

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

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...unprepared!

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SOAP *and Sanitary Chemicals*

254 WEST 31st STREET **NEW YORK**

Member of the A.B.C.

Tale Ends

JUDGING from some of the prices at which soaps and soap products are being supplied on Government bids, manufacturers must be giving Uncle Sam full benefit, and then some, of the low levels to which oil and fat prices sank not so long ago.

* * *

After harvesting the pyrethrum crop on a large farm in California, drying the flowers and selling them at the market, net loss to the grower is reported to have approximated ten per cent. Looks like union wages and pyrethrum farming are still a long ways apart!

* * *

The suggestion that all insect sprays carry a grade rating on the container is causing much smoke and rumbling under the surface and, according to reports, is liable to break out into a full-fledged volcano any day now.

* * *

Your subscription to *Soap & Sanitary Chemicals*, renewed now, will automatically entitle you to a copy of the 1941 *Blue Book* when it is published early next year. Do not file that subscription expiration notice...send it in now with your check!

* * *

Reports last month that English fliers had dropped millions of potato bugs over the farm areas of Germany as a means of attacking the food supply, were later denied in England. Such attacks anyway would appear to be a trifle late for 1940 and somewhat early for 1941. This is the first report we have heard of insects ever being used as an instrument of war. Who was it that said eventually insects will wipe man off the earth in spite of all his efforts to control them?

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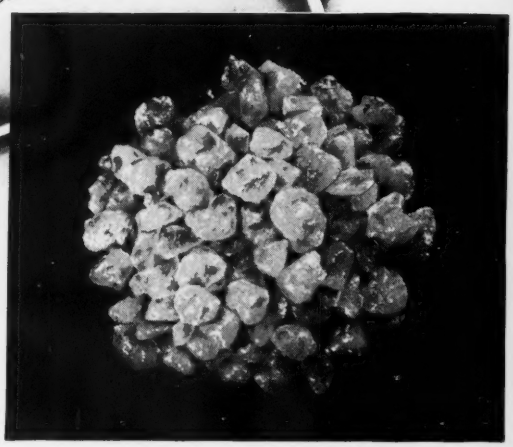

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